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Brushes & Painting

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FocusGuide
From the makers of **Computer Arts**



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**



Brush up on your technique...

If you can master the Brush tools, you're well on your way to Photoshop wizardry. We'll give you the help you need...

The humble brush is one of the simplest of tools that a traditional artist might use. So it might come as a surprise to find that when it comes to digital arts, it's a rather more complex issue. In fact, Photoshop's Brush tool has a huge set of features, giving it the power to create endless effects.

Natural media effects such as spray-paint, wax crayon, charcoal and wet brushes can easily be recreated, but these are just the tip of the Brush tool iceberg. In this Guide we'll not only explain how to achieve these traditional effects, we'll also introduce you to the more creative uses for brushes. For example, we'll show you how to control the behaviour of brushes using Opacity, Flow, Feather and other settings. We'll also explain the Blending Modes on offer, which dictate the way your 'paint' interacts with the pixels beneath it. It may sound confusing, but rest assured that our step-by-step guides and annotations will remove any mystery.

One of Photoshop's great strengths is that it lends itself perfectly to customisation, and the Brush tool is no exception. We'll show you how easy it is to create your own custom brushes, then keep them organised with the help of the various palettes and toolbars.

On your bonus CD this issue you'll find a bumper collection of over 2310 custom brushes, which add useful effects at a stroke. There's also hundreds of images, patterns and borders to add sparkle to your work. Not forgetting our video tutorials, which will give you a masterclass in Brush techniques. There's no easier way to learn!





Future Publishing Ltd
30 Monmouth Street, Bath BA1 2BW
www.futurenet.co.uk
Tel 01225 44 22 44 Fax 01225 44 60 19

Writer **Chris Schmidt**
Operations Editor **Matt Nailon**
digitalbookazines@futurenet.co.uk
Art Editor **Simon Bleeze**
Updates Editor **Tim McCann**
Production Editors **Mike McNally, Abby Sparrow**
Cover image **Chris Stocker**
New Media Co-ordinator **Matt Gallimore**
Production Co-ordinator **Diane Ross**
Marketing Manager **Fiona Tully**
Publisher **Kelley Corten**
Publishing Director **Dom Beaven**

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Telephone: +44 (0)870 837 4722
Email: customerservice@futurenet.co.uk

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Non-executive Chairman

Roger Parry

Chief Executive

Greg Ingham

Managing Director

Robert Price

Group Finance Director

John Bowman

Tel +44 1225 442244 www.futureplc.com

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Finding your way

Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

Where do you start? With so much to tell you about Adobe Photoshop, it's hard to find room for all the information we want to pack in. That's why you'll find the special icons that occupy the margins on each page so useful.

As you leaf through the pages, you'll find a range of eye-catching symbols, each of which indicates an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're dealing with – for a guide to icon

categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you to develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts*, *Digital Photo Effects* and *Digital Camera Magazine*, so you can rest assured that all the information they provide is both authoritative and thoroughly tried and tested.



On your CD-ROM

Tutorial files, trial software and more besides is included on your CD-ROM. Every now and then, we remind you of this by flagging-up the disc icon and listing the relevant disc contents.



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful tip, or advice about Photoshop's range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead, we refer you to other useful resources – such as websites and specialist books – for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to perform these tasks with a few deft key-presses, saving you lots of time and effort.

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Chapter 1

INTRODUCING THE BRUSH AND PENCIL TOOLS

In this chapter...

- ☐ Find your way around the Brush and Pencil tools' interfaces
- ☐ Learn how to create a canvas for your artwork
- ☐ Configure background and foreground colours
- ☐ Create simple paintings and drawings

The Brush and Pencil are the basic tool that you'll use to create artwork in Photoshop. They're fully configurable and extremely versatile, but we'll start with the basics

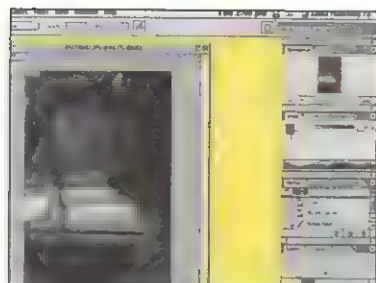
Way back in 1990 Adobe released version 1.0 of a new application called Photoshop. As the name suggested, it was a digital workshop for editing scanned photographs on a computer. Fifteen years down the line, however, people have found all sorts of other uses for Photoshop, and each new version has reflected the evolving needs of its users, right up to the latest version – CS. In this Focus Guide you'll see just how many of these developments are new to more recent versions of the program.

If you've ever worked with an image on your computer, the chances are that you've used Photoshop.

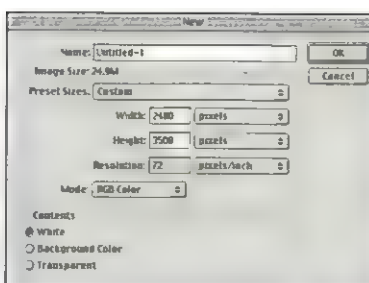
Photographers, both amateur and professional, use it to correct flaws in their work; web designers can quickly generate whole websites from just a folder of images; picture researchers are able to resize photos to match editorial content; and artists use it to create malleable collages and paintings.

Supply and demand

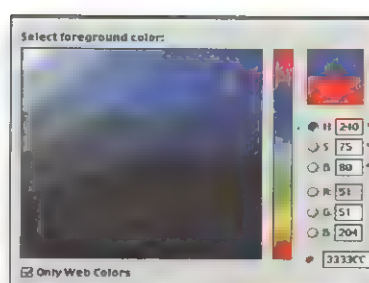
The variety of applications bears testament to the versatility of the tool, but Photoshop's flexibility has not simply appeared out of thin air; it's clearly informed by users who have been stretching and exercising the application for so long and in so



Page 12 Take a whistle-stop tour of interface elements relevant to painting



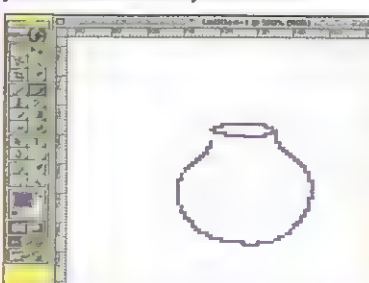
Page 13 Before you can start painting you'll need to create your canvas



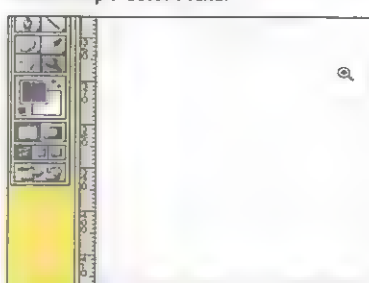
Page 13 Choose your colours using Photoshop's Color Picker



Page 14 The Eraser is every artist's best friend when things go wrong



Page 15 Create simple line drawings using the Pencil Tool



Page 15 Start using the navigation features, such as the Zoom Tool

many ways. Looking at the history of the product we can see that Adobe and its customers are locked into an ongoing relationship of supply and demand, and the development of the Brush Tool is a perfect example.

Basic brushes

Early versions of Photoshop did include Brush and Pencil tools, but there was very little flexibility in how they could be used; at the time it was probably assumed that other applications could do jobs for which the tools were designed better, so why bother? Since then a lot has changed; in many cases we now don't need to reach for dedicated

painting applications such as Paint Shop Pro and Illustrator, because Photoshop can do the job just as well. In addition to creating artwork, Photoshop's brushes are also used extensively for touching up and enhancing digital photographs.

In this first chapter we'll keep things simple as we look at how to select and configure the Brush Tool, and we'll also get our hands dirty with some basic painting. The Pencil is another tool that we'll be exploring throughout this Focus Guide, and we'll be taking a brief look at that too. So open your virtual paint box, clean out your brushes and let's get down to work...

The Photoshop interface

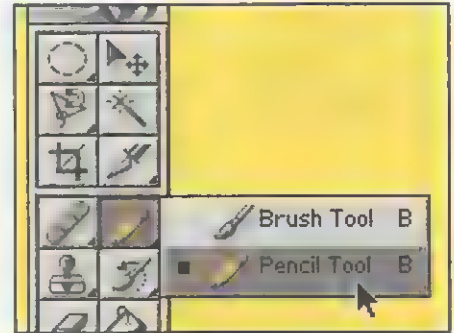
Get started by locating the Brush and Pencil tools, and their related options and windows



Pencil Tool location

The Pencil tends to be used less often, as its applications are less wide-ranging than those of the Brush. On first opening Photoshop you won't be able to see the Pencil, as it's docked with the Brush Tool in the toolbar. Click and hold on the Brush icon to see both tools and select the Pencil; its icon will remain visible until another tool is selected

Photoshop can be a little scary to look at with all its windows, menus, options, layers, blending modes and so on, but for now we're going to focus on just a few elements of the interface – namely those relating to the Brush and Pencil tools. The Brush can be found with the other tools in the toolbar; all these are placed within easy reach because you'll be using them on a regular basis. Selecting any tool activates that tool's particular setting in the options bar at the top of the screen; however, as the Brush



The Brush and Pencil tools are housed together in the toolbar; if the tool you want isn't visible click and hold on the icon to call it up

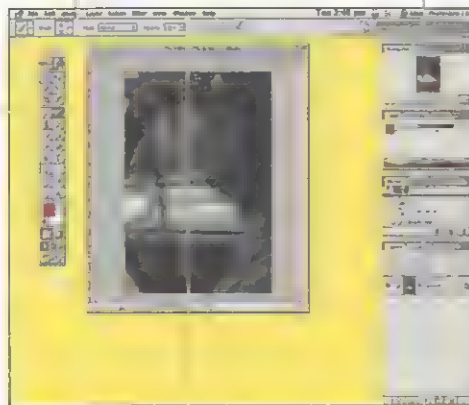
is one of the most important tools it also has its very own set of advanced controls in the Brushes palette.

FINDING YOUR WAY AROUND

The options bar displays various settings for the Brush and Pencil tools, and you can also access the Tool and Brush preset pickers.

The Brush and Pencil tools are located in the fourth row of the right-hand column of the toolbar. Click and hold to switch between them.

If you can't see the toolbar in your interface, make sure that Tools is ticked in the main Window menu.



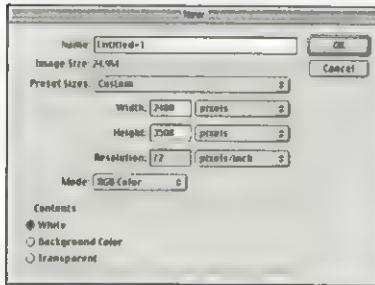
Open the Brushes palette by clicking the tab at the top-right of the screen, or drag it out to float independently.

Choose colours to paint with using the Color and Swatches palettes – both of these can be opened from the Window menu if you can't already see them.

Use the History palette to undo brush strokes and marks. This is a very helpful feature when you're starting out with a new tool.

First steps with brushes

As with any all-dancing, all-singing application, you have to learn to crawl before you can walk

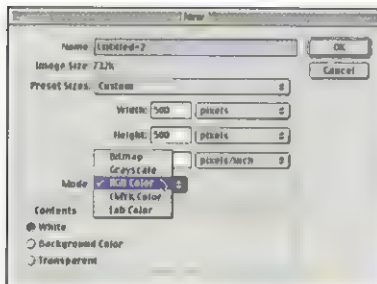


Start a new file in Photoshop (File > New). In the pop-up window enter 72 pixels/inch. Working with a low-resolution image means the computer will process the file more quickly, as there's less detail; as brushwork requires the computer to update changes regularly and quickly, this is all-important in our initial 'learning' exercises.

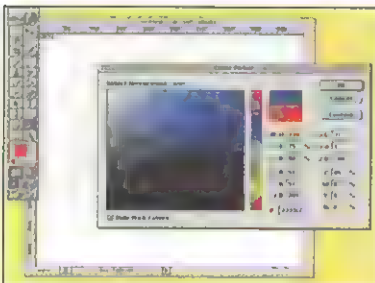


Web-safe colours

If you want to guarantee that your chosen colour is accurately reproduced on all systems and in different web browsers, it has to be a 'web-safe' colour. To be sure you're choosing web-safe colours to paint with, click the Only Web Colors box in the bottom-left of the Color Picker window (see step 3).



In the same pop-up change both the Width and Height to 500 pixels. Images destined for internet distribution (via email or on a web page) should be no larger than 500 pixels tall by 700 pixels wide. We'll look at how colours are made up later, but for now pick RGB (Red, Green, Blue) mode, which is used for web imagery.

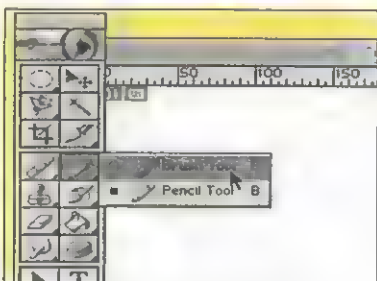


Finally, set White as the Background Color. Now that we have a blank canvas to start painting on, let's choose a colour. Click on the foreground colour swatch in the Toolbar to bring up the Color Picker. Select the colour by moving the slider through the spectrum and then clicking on a shade. Click OK to confirm your selection.



Screen resolution

If you're creating a file that you know will only be used or distributed via the web, your screen resolution should be 72 dots per inch. There's no point in creating or saving it at a resolution any higher than this. On the other hand, if you're not 100% certain where the image will end up, start off with a 300dpi image, and save lower resolution versions as necessary. This way you can always revert to the hi-res original for print-quality exports.



Now select the Brush Tool. This is found in the fourth row from the top of the toolbar, in the right-hand column. If you can only see a Pencil icon, click and hold on it until the fly-out menu appears, then select the Brush Tool.



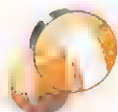
First steps with brushes continued

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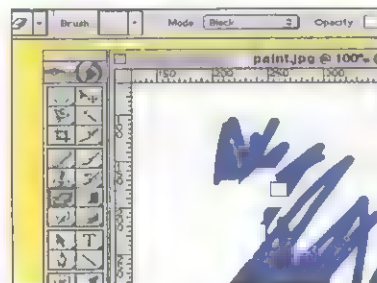
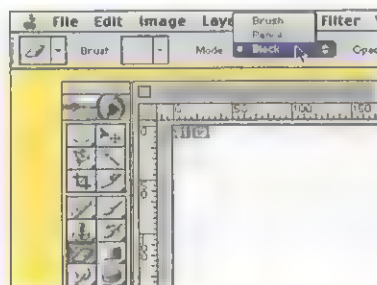
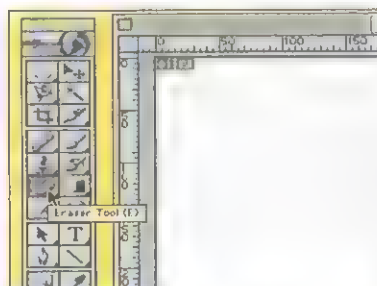
Eraser 'colour'

The Eraser works by erasing to the background colour, which is usually white, the same as the canvas. If the canvas isn't white, or your background colour has changed, you'll need to set your background colour to the colour of the canvas. Select the Eyedropper Tool from the toolbar. Click the background colour swatch in the toolbar, click on the canvas to sample the colour and click OK in the Color Picker window.



Changing your painting cursors

The cursor that appears when you use the Brush (or any other 'brushing' tool) can be altered. Click Edit > Preferences (Photoshop > Preferences on a Mac) and then Display & Cursors. Look at Painting Cursors, where you'll also see a preview of each type. Tick Standard for each tool to display a cursor depicting the tool's icon; for example the Sponge Tool will be represented by a sponge. Tick Precise for very accurate crosshairs, or Brush Size for a cursor that shows the full width and shape of the brush.



Now to start painting. This is as simple as you'd imagine – simply click and drag the mouse around to paint whatever you like. At this stage don't worry too much about the colour, the type of brush you're using or anything like that – we'll deal with all this in due course.



Given that you'll probably start by making an almighty mess all over the canvas, it might help to know from the outset where the Eraser can be found – it's definitely something you'll find very useful! You'll find it halfway up the toolbar on the left; the icon looks helpfully like a traditional rubber. Select the Eraser.



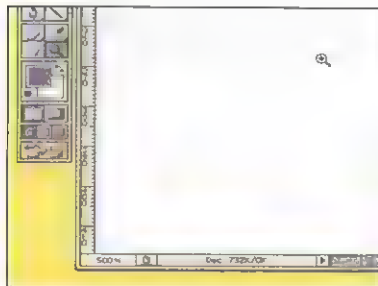
There are three different Eraser modes you can use. The first is Brush and the second is Pencil, and their shapes can be configured in the same way as the Brush and Pencil tools. The third, easiest and probably the most commonly used is Block mode. In the options bar, make sure that Block is selected from the Mode dropdown.



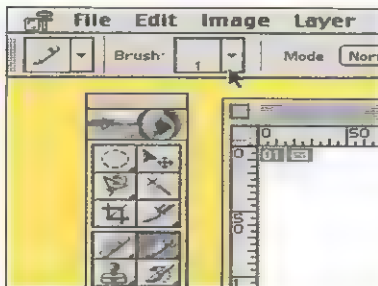
Use the Eraser to wipe away any areas of paintwork you'd like to get rid of. You'll notice that a Block eraser certainly isn't very delicate on account to its shape, but that hard, straight edge is often exactly what you'll need for quick fixes following a slip-up with the Brush.

The Pencil Tool

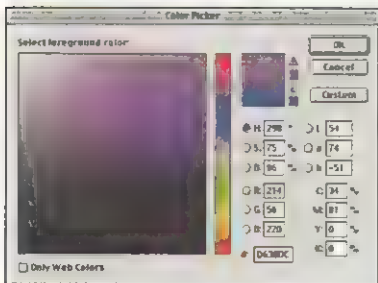
We've had a taster of the Brush, so now we'll look at its more delicate partner, the Pencil



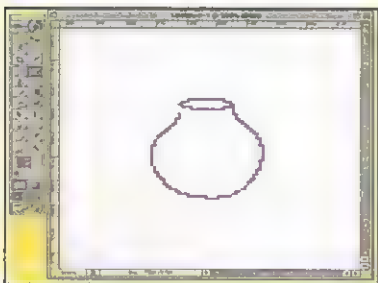
1 Start a new file (File > New) 500x500 pixels with a resolution of 72dpi. As we'll be drawing fine lines it'll help to zoom in. Select the Zoom Tool – it's the magnifying glass at the bottom-right of the toolbar – and click on the canvas. On a blank canvas it's hard to see any difference, but you can check the magnification in the bottom-left of the canvas window. Zoom in to 500%.



2 Now select the Pencil Tool. If you can't already see it in the toolbar, you'll need to click and hold on the Brush icon, and select the Pencil from the pop-up menu. Note the very fine Brush size in the options bar – this makes the Pencil perfect for fine, detailed work where pixel-by-pixel changes are often necessary.



3 Pick a foreground colour by clicking on the swatch in the toolbar and using the slider in the Color Picker window. In that same window, un-tick the Only Web Colors box to display a wider range of shades; they might not appear as shown on all computer monitors, but this gives you an idea of the range available for print work. Choose a colour and click OK.



4 Start drawing with the Pencil; again this is very intuitive. Zoomed right in you can see how the tool draws pixel by pixel. Later on we'll really be stretching the creative possibilities of both the Brush and Pencil tools, but for now we'll keep things simple. As before, use the Eraser Tool to rub out any mistakes.



In the old days...
The Pencil and Brush tools both appeared in version 1 of Photoshop, but in those days there were so few tools that they each had their own compartment in the toolbar. In newer versions there are so many tools that space is at a premium, so related tools are housed together.



Leave the Pencil be
There's nothing stopping you from setting up the Pencil so that it works in exactly the same way as the Brush, with the same tip size, behaviour and so on. However, the more you use the two tools, the more you'll appreciate how useful it is to be able to quickly jump from a very fine pencil to a more painterly brush, so don't alter the Pencil Brush shape or size unless you really have to.

CONFIGURING THE BRUSH AND PENCIL TOOLS

Now you've mastered the basics it's time to take full control of the Brush and Pencil tools. This chapter delves deeper into their options, so you can see just what they're capable of

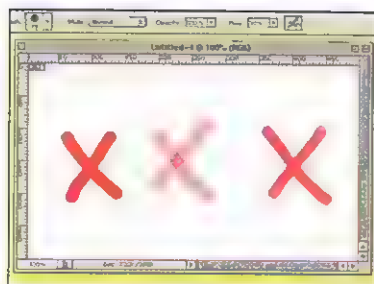
You'll be familiar with the options bar if you've used Photoshop before, even if you haven't made much use of it. And, while it's true that you could blindly potter along without ever using the vast array of settings and controls for each tool, you'll be severely limiting your creative options if you do.

Of course, you won't be using every setting in the options bar all of the time; in fact, you might only end up using one or two of the many controls at your disposal every now and again with a few tools. However, you won't know whether a particular option will be of any help to you in your work until you've tried it out.

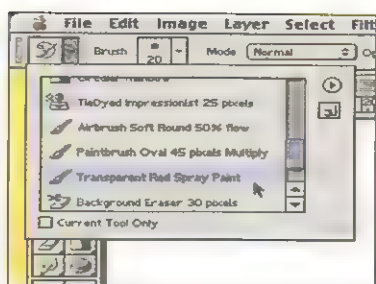
Experimenting with all the options on offer might seem like a lot of work to put in, but it's pretty much guaranteed that by the end of this chapter you'll have made some useful discoveries that will enhance your Photoshop work no end. We'll look at all the settings and controls in the options bar, and while this still won't unleash the full power of the Brush and Pencil tools, you'll certainly find that you can do a great deal more with them.

Journey across the options

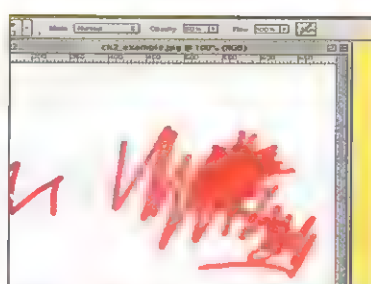
In the main tutorial of this chapter we'll be working from left to right along the options bar, explaining



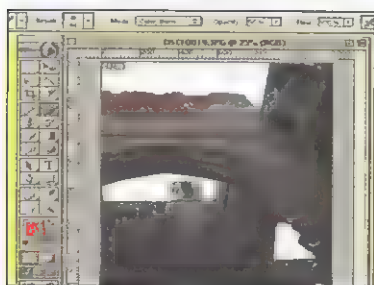
Page 18 Learn the subtle differences between the Opacity and Flow options



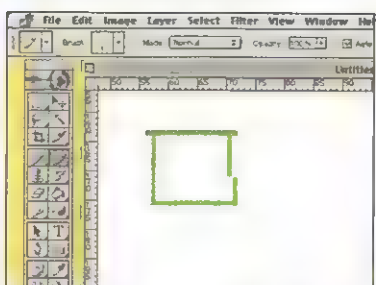
Page 19 Discover shortcuts to features such as the Brush Preset Picker



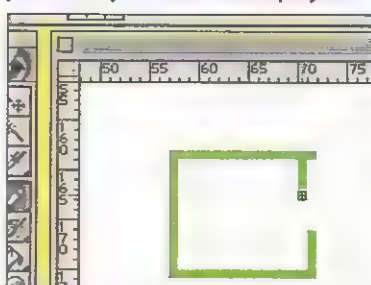
Page 21 The Airbrush setting enables you to turn your brush into a spray can



Page 22 Blend your brushstrokes using the various Mode settings



Page 23 The Pencil Tool is perfect for fine drawings, such as outlines



Page 23 Find out how you can erase quickly without having to switch tools

how each setting can be changed and then used to its best advantage.

An addition to Photoshop 7 and CS is the Tool Preset Picker, and while this appears in the options bar whichever tool is selected, it's worth pointing out that there are a few preset brushes included in there as defaults. Next along, the brush preview shows you which type of brush is currently set, and also gives you the option of choosing from a further list of presets.

If you're familiar with the concept of layers, you can read Mode as the brush's blending mode – the various settings in this list dictate how your painted pixels affect the pixels

underneath; for example lightening, darkening, bleaching or colouring them. Opacity and Flow affect how heavily the paint is applied, and, finally, the Airbrush setting creates the effect of 'pooling' paint if the mouse button is held down.

No photos

Keep in mind that we're still not working with photographs at this stage. We'll come to the 'darkroom' applications of the various painting tools and techniques in due course, but, for time being, you might like to start thinking about how the tools we're using could be applied to photo manipulation.

Opacity and Flow

It can be hard to tell the difference between these options, as their effects can appear similar



Airbrush extras

Try experimenting with the Airbrush setting; this enables you to 'build up' your paint if you keep the mouse button pressed, adding a new dynamic to the 'layering' effect you see at very low Flow settings. One of Photoshop's preset brushes is a combination of Flow and Airbrush controls; open the Tool Preset Picker on the left of the options bar and scroll down until you find 'Airbrush soft round 50% flow'.

When you look at the Brush Tool's options bar you'll notice two controls that might leave you scratching your head: Opacity and Flow. In certain situations they seem to work in a similar way, but once you start playing with their various settings you'll appreciate the finer points of each. So exactly what is the difference between Opacity and Flow?

The Opacity setting enables you to control the transparency of the 'paint' you're applying. At 100% opacity the brush will completely

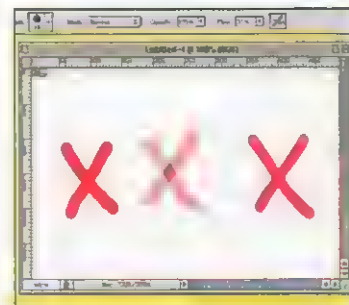
cover the pixels beneath using the foreground colour. If a lower value is specified, the painted pixels will be of the same foreground colour, but they'll be blended with the background pixels.

The Flow setting determines how quickly and smoothly the paint is applied. Brush strokes are made up of a number of points running together in a line. However, if you reduce the Flow, these points are painted less frequently, and the opacity of each point is also reduced by the specified percentage.

OPACITY AND FLOW IN ACTION

It's easier to understand the differences on the canvas

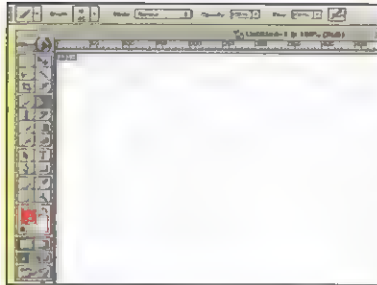
The best way to understand how Opacity and Flow work is through experimentation. Set up a large blank canvas, choose a bright red and a select a 19-pixel circular brush. Make sure that Opacity and Flow are both set to 100% and paint a cross on the left side of the canvas. Then paint two more crosses, one with Opacity at 30% and Flow at 100%, and one with the settings reversed. This will enable you to see how each setting works, and how the pixels are blended; the middle cross is lighter, but retains the same texture as the left-hand cross, while the right-hand cross is less smooth, but is closer to the original colour.



Three experiments (l-r): Opacity 100%, Flow 100%; Opacity 30%, Flow 100%; Opacity 100%, Flow 30%

The Brush Tool options bar

Over the next three pages we'll look at all the options you'll see when a brush is selected

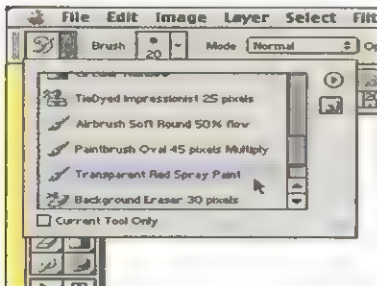


Start a new file of around 600x500 pixels with a white background. Pick a bright shade of a rich colour – something like scarlet red; this will enable us to easily see how the brush and its colour settings can affect underlying pixels. Then select the Brush from the toolbar.

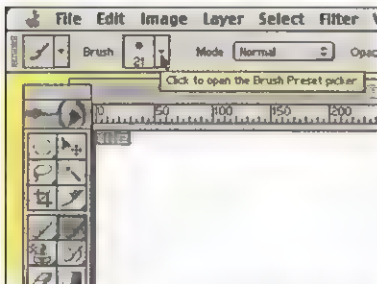


Quick brush picker

To quickly access the Brush Preset picker while using the Brush Tool, right-click (PC) or [Control]-click (Mac) on the Canvas. The window will appear floating right next to your cursor. You can choose a new brush, or change the Master Diameter. When you click back on the canvas the window will disappear.



New to Photoshop 7 and CS is the Tool Preset Picker: it appears in the far-left of the options bar, and houses a selection of tool presets that have been created by Adobe for various tools. You'll find three Brush Tool presets near the bottom of the list; if you check the Current Tool Only box only these will be displayed.

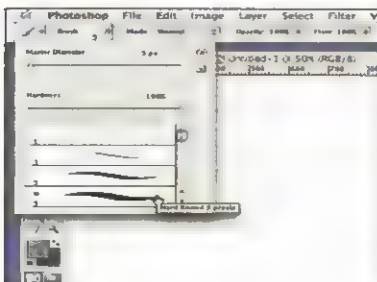


Next along is the Brush Preset Picker, which enables you to change the shape and size of the selected brush. You'll see a preview of the current brush type; click on it to open a dropdown menu featuring a list of preset tip shapes and sizes.



Helping hand

Someone at Adobe obviously realised that Photoshoppers were making regular use of particular tool configurations for everyday jobs, such as correcting blemishes in photos or creating realistic spray paint effects. In response to this the Tool Preset Picker was introduced in version 7, enabling users to quickly reach for these common settings. As you become more experienced with Photoshop you can create your own presets, and add them to the default list



The default set of brushes you see listed is fairly comprehensive, but it's just one set of brush types. Later on you'll learn how to load up other sets, and save your own. Note the different types here: hard-edged, soft-edged, patterned, textured and those with tapering ends, suggesting pressure-sensitive qualities. Pick the fourth brush from the top: Hard Round 9 Pixels.



The Brush Tool options bar continued



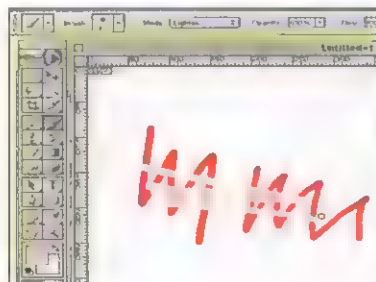
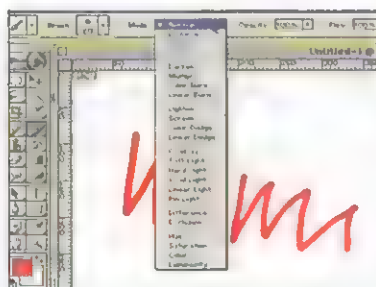
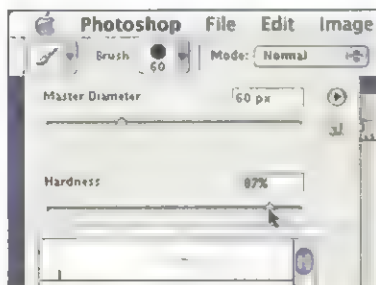
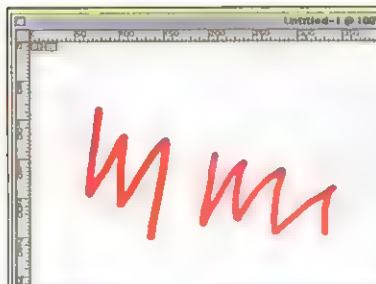
Modes are permanent

Although the Mode option for brushes works in a similar way to layer blending modes, be careful. Unlike layers, which you can toggle on and off, once you've applied a Mode effect to an image it's permanent. Here's a safer method: if you want to paint a Screen effect on to your original image, create a new layer above it, set its blending mode to Screen and paint as normal.



Intuitive field entry

We've seen that you can type a number in the Master Diameter field of the Brush Preset Picker and Photoshop will recognise that you're referring to pixels. This intuitiveness crops up a lot in Photoshop, so most of the time you don't need to worry about typing pixels, cm, mm, % and so on.



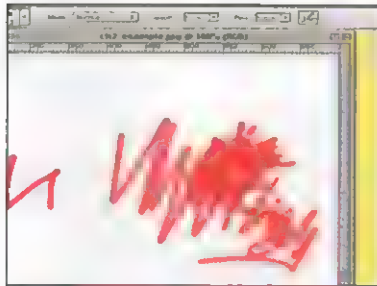
Now you've selected a Brush, try it out.

Notice how the 'hardness' of the brush produces a sharp, clean edge to the stroke; now pick a 'softer' brush from the Brush Preset Picker to see the difference. You'll appreciate how a soft brush will be better suited to situations where you want your strokes to 'blend in', such as when making lighting corrections to a photograph.

You can also adjust the size of the Brush. Simply open the Brush Preset Picker and move the Master Diameter slider up or down. Alternatively, you can enter an exact number of pixels in the field; don't worry about typing 'px'; just type the number. Photoshop CS users also have the option to adjust the Hardness, to soften or harden the edge of the brush.

Next along is the Mode setting. We'll look at how some of the more useful modes work later, but for now let's see how to apply them. You're probably used to using Normal Mode, which applies your colour exactly as you would expect, just like real paint. However, if you open the dropdown menu you'll see an impressive array of other modes at your disposal.

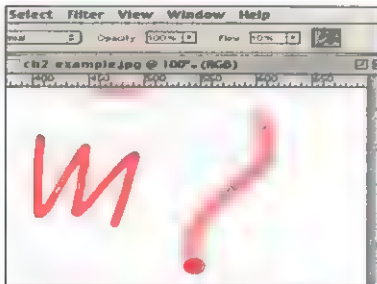
Modes basically work by applying a 'top' colour to an underlying colour to affect it in some way. Given this, let's pick a lighter shade of pink for our brush and change the Mode to Lighten. Paint over your existing random squiggles and note that only the red strokes are lightened – the canvas can't become any lighter as it's already white.



Change the Mode back to Normal so we can continue. The Opacity and Flow controls are explained on page 18, but take a little time now to see how they work. Reduce Opacity to 50% and start painting. You'll see that the texture and shape of the stroke are the same as before, but the stroke is transparent. It's not just lighter; you can actually see the pixels below.



Return Opacity to 100% and move on to Flow. Reducing this does two things: it alters the frequency of the points making up the stroke, and each of these points becomes more transparent. Set Flow to 10% and pick a 19-pixel round, hard brush. Draw a line and zoom in to view it in more detail; you should be able to clearly see how the stroke is made up of transparent circles.



Leave the Flow as it is, and click the Airbrush icon, just to the right. This makes the Brush behave like an airbrush, applying more paint the longer you hold the mouse button down. You'll see that it's bracketed with the Flow control in the options bar, as these settings complement each other. Now paint again, holding the mouse button down at the end of the stroke.



See how the paint builds up wherever you pause. Now try the same thing at 50% Opacity and 100% Flow. The paint doesn't get any darker, but it does 'bleed' outwards slightly, as if pooling. You'll see this even more clearly if you switch to a soft-edged brush. If you want to take the easy option, you'll find an Airbrush preset in the Tool Preset Picker.



From toolbar to options bar

In version 7 the Airbrush moved from the toolbar, where it had its own icon, to its current position in the options bar. This recognised the fact that the Airbrush was basically a behaviour characteristic of the Brush Tool, rather than a tool in its own right.



Using opacity

You might think that two brushstrokes of the same colour painted one on top of the other at 50% opacity would produce the same colour as one 100% opacity stroke. However, that's not the case – you'll need to brush over the same point several times to create the same depth of colour.

However, once you've reached 100% opacity no amount of brushing will make the strokes darker, as you can't go beyond 100%.

Brush painting modes

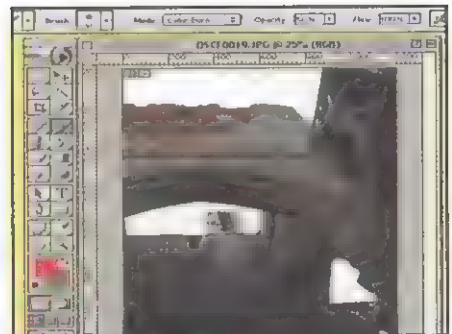
You can use the various painting modes to alter your images in all kinds of ways



History palette

Don't always rely on your History palette to retrace your steps if you accidentally use the wrong painting mode or change your mind about the effects. Each new brushstroke counts as a new step, so it's all too easy to get carried away painting and fill up your History quickly. If you need to, increase the number of History States (Edit > Preferences > General, or Photoshop > Preferences > General on a Mac).

You may well have used some of the blending modes that can be applied to layers; if so you'll be interested to know that similar effects can be applied when you're painting. However, as you don't have the versatility of layers when you're painting one brushstroke on top of another it pays to know exactly what the various modes do before you use them. Some are more useful than others, and we look at some of the best ones below. Note that when we talk about applying these modes the 'blending' stroke refers to the



A Color Burn Brush is used to add a red tint to the brickwork of this building; we'll look at other photo-editing applications for brushes later

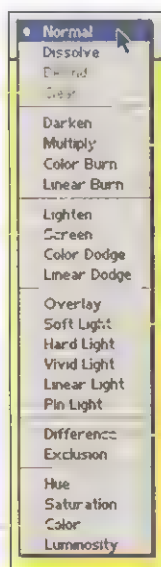
brushstroke being painted, while the 'base' stroke refers to the area that we're painting on to.

SELECTED PAINTING MODES

Clear Erases basepixels where you paint – useful for erasing using current brush settings. Can't be used on a background layer so you'll need to duplicate the layer first.

Screen Light blending colour removes darker parts of the base colour to bleach out or lighten the image. A dark paint lightens the base less.

Color The blending paint's saturation and hue (colour and intensity) values are applied to the base but the base's 'light and dark' values remain the same, so the contrast remains.



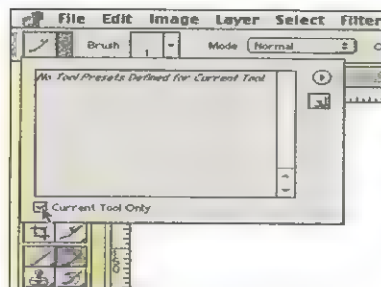
Multiply A dark point removes the lighter parts of the base to produce a darker base i.e. the opposite of Screen. Great for creating shadows.

Soft Light If the paint colour is light this lightens the base pixels, if it's dark, it darkens the base pixels – great for subtle lighting.

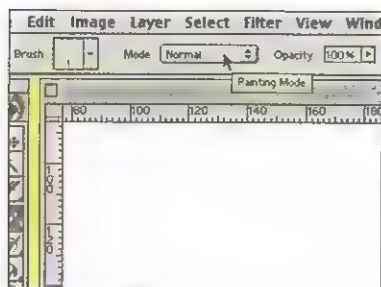
Difference Creates a colour negative of the base image. When the paint colour is lighter, the negative effect is more pronounced.

The Pencil Tool options bar

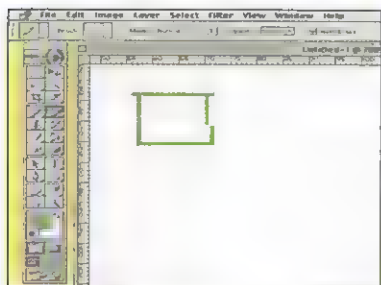
The Pencil options vary slightly from the Brush options, and the differences are worth noting



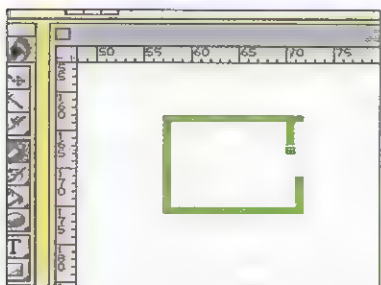
Create a new file and select the Pencil Tool. We saw in the last tutorial that there are three preset brushes in the Tool Preset Picker, but you won't find any for the Pencil Tool; this is because it's generally only used for drawing simple lines.



The next option is the Brush Preset Picker, where you can change the size and shape of the Pencil in the same way as you did the Brush. However, it's a good idea to keep the Pencil in its basic mode as a separate tool, and use brushes for jobs where more editability is required. The Mode and Opacity options also work in the same way as for the Brush Tool.



The next option along, Auto Erase, is unique to the Pencil Tool. Zoom close into your canvas – around 700%. Pick a bright foreground colour to draw with, and white for your background colour. Select the Pencil Tool again, tick the Auto Erase box and draw a rough square. Even if you have a steady hand there are likely to be some stray pixels in your box.



Start dragging on one of the pixels you just drew; the brush colour changes to the background colour, enabling you to erase any mistakes. To draw using the foreground colour again, click and drag on any non-foreground-colour pixels; you'll quickly appreciate this is much quicker than reaching for the Eraser each time.



Quick colour change

While using the Auto Erase function you can at any time set the foreground colour to be the colour that's beneath the cursor. Simply [Alt]+click (PC) or [Option]+click (Mac) the colour and then start dragging. This is useful, because the tool will automatically start erasing that colour. Later on you'll see how this is helpful when we create some coloured pixel art.



Pencil modes

We're used to using blending modes to make big changes to images, such as recolouring a sky or lightening a shadowed area in a photograph. However, using the Pencil with various Mode settings we can apply some more subtle changes.

Redeye is a common problem in photography, and we can use a fine pencil set to Saturation Mode to draw over the offending red.

ADVANCED BRUSH TOOL OPTIONS

The Brushes palette opens up a whole new world of options, enabling you to change the shape, behaviour and texture of your brushes to create an almost infinite variety of effects

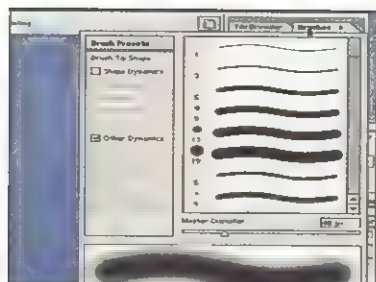
The Brushes palette is one of the most important and frequently used interfaces in Photoshop – so you might wonder why it's tucked away in the palette well at the top right-hand corner of your screen, alongside the options bar.

Well, to start with, the Brushes palette is huge; if you click on its tab you'll see that, in its open form, it takes up almost a quarter of a 1,024x768 screen (notice that the File Browser palette in versions 7 and CS is even larger!). If the Brushes palette was left open the whole time you wouldn't be able to see any other palettes on your screen – or much of the image you were

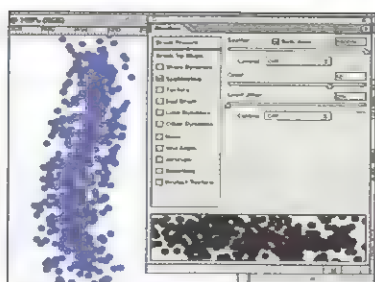
working on. The other reason for leaving it in the palette well is so that you can always get to it easily. We'll be looking at how you can organise your palettes using the palette well later in this chapter.

Options, and more options

We've already seen that the Brush Tool is a pretty versatile beast; we can select any one of a number of preset shapes, and apply it in all manner of different ways using the various options bar settings. However, the Brushes palette enables us get down to the real nitty-gritty of controlling the shape, dynamics, behaviour and texture of



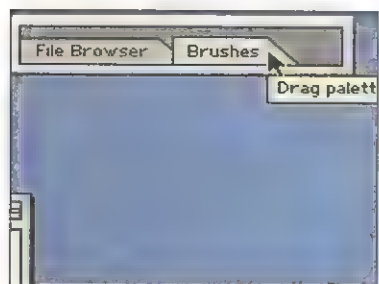
Page 26 You'll find the Brushes palette tucked away in the palette well



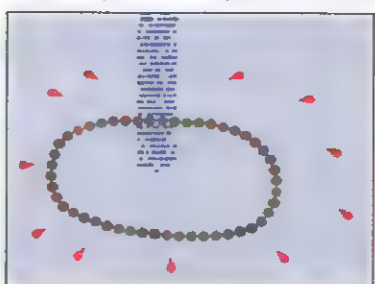
Page 27 Produce a scattered brush effect using the Brushes palette controls



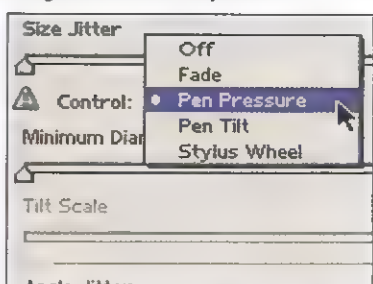
Page 28 Create unusual brushstrokes using the Dual Brush option



Page 29 Use the Palette Well to store palettes when you're not using them



Page 30 Create simple artworks using nothing more than brush shapes



Page 31 Enjoy more brush options by working with a graphics tablet and pen

our brushes, opening up a whole new world of creative possibilities.

To give you some idea of what's on offer select the Transparent Red Spray Paint brush from the Tool Preset Picker in the options bar, and open the Brushes palette. Notice that certain items in the list are ticked, such as Shape Dynamics, Other Dynamics and Airbrush. Click on Shape Dynamics and you'll see that yet another new set of options for that setting appears. And, if you can handle even more excitement, try clicking the arrow to the right of the word 'Brushes' in the tab; this opens the Brushes palette menu, which contains still more options.

To start with you'll probably be happy configuring your brushes using the Brushes palette each time. However, if you find you're using the same brushes regularly it makes sense to save them as presets, so you can load them up instantly.

Gently does it

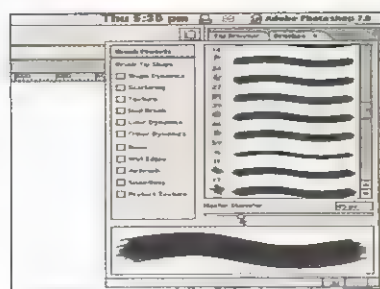
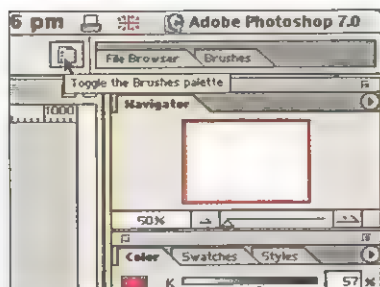
You may be a little overwhelmed by all these new options that are suddenly at your disposal, but don't worry; we'll be taking things slowly. There are all kinds of clever things we can do using the Brushes palette, but some of them won't seem that useful to you until you've been using brushes for a while.

The Brushes palette

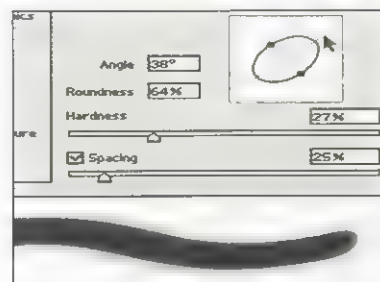
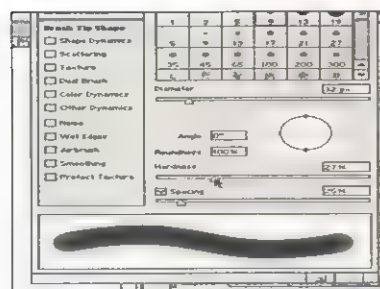
The controls found here can be used to reshape your brushes in all kinds of ways



Tool-specific palettes
The buttons to the left of the palette well enable you to quickly access palettes that are relevant to the selected tool. When a brush-based tool is selected you can toggle the Brushes palette on and off; when you use the Type tools you can toggle the Character palette.



Calligraphy pen
You can use the Brush Tip Shape controls to create a flat-ended ink pen shape. Give the brush a Roundness of 20% and an Angle of 45 degrees, and set Hardness to 100%. You could use this brush to create freehand lettering, or elaborate borders for your photos.

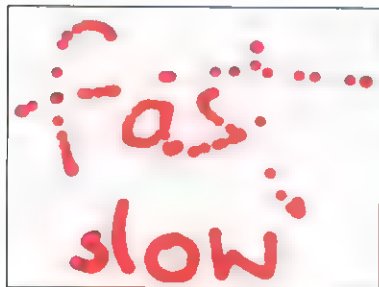



1 Start off with a blank canvas, and use this to try out the various settings as we work through them. Select the Hard Round 19 pixels brush from the Brush Preset Picker. You can access the Brushes palette in one of two ways: either click on the Brushes tab in the palette well at the top-right of your screen, or hit the toggle button just to the left of the palette well.

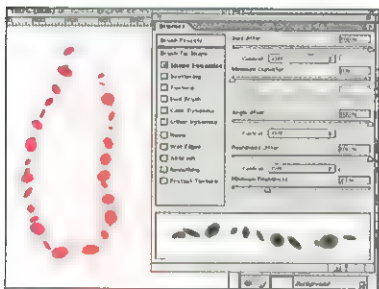
2 Once the palette is open it will remain so until you click anywhere else on the screen (for more on palette management see page 29). The first brushes you'll see are the same as those in the Brush Preset Picker; you can scroll through these, and change their diameters using the slider or by entering a value in the field.


3 In the Brush Presets column click on Brush Tip Shape to bring up a new set of controls, including another Diameter control. Notice that as you make changes the full-size preview of the brush beneath the settings updates (unless the brush is too large to show there). You can also soften the edges of the brush by reducing the hardness; 100% produces a straight edge.

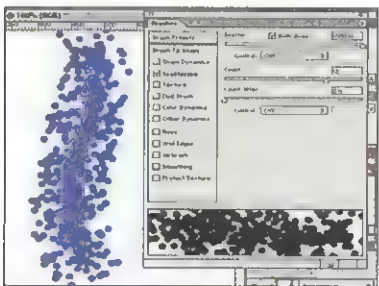
4 You can alter the 'slant' of the brush by changing the Angle setting; enter a number between -180 and 180 degrees. This won't take effect unless you change the Roundness too, so enter a value lower than 100% to make it more oval-shaped. Alternatively, change the Angle by clicking and dragging within the preview window, and the Roundness by dragging the dots.




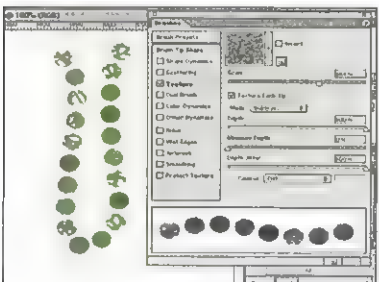
 The Spacing control in the Brush Tip Shape options enables you to alter the spacing of the points that make up a brushstroke; see how moving the Spacing slider affects the preview. With the Spacing option unchecked the points are unevenly spaced, with their frequency depending on how fast you drag the brush.




 The first six settings below Brush Tip Shape have tick-boxes so you can turn them on or off. Shape Dynamics controls the amount of variation in the brush shape; set Size Jitter, Angle Jitter and Roundness Jitter to change how much these attributes vary randomly within the stroke, and change the Minimum Diameter and Minimum Roundness to set the bottom end of the range.



 Scattering controls how brush marks are distributed within the stroke. The Scatter setting controls how far marks can veer from the stroke path; ticking Both Axes makes them veer both perpendicular to and along the path. Change the Count to control the number of marks applied at each stroke point. Set Count Jitter to control how much the Count can vary; 100% varies it the most.



 To mix the texture from a pattern with a brushstroke use the Texture controls. Choose a texture from the Pattern Picker by clicking the preview thumbnail; if you want to use an inverted version, tick Invert. You can alter the scale of the texture, and pick a mode to determine how the texture blends with the brushstroke. Depth sets the texture's prominence within the stroke.



Toggle settings

Turning off the various settings couldn't be easier; simply untick the boxes and the settings will be ignored. The great thing about this feature is that if you later decide you want to apply the settings you can simply tick the box again; you'll find that the settings will have been preserved just as you left them.



Custom patterns

You can use various patterns to texture your brush stroke. You'll find the default ones in the Pattern Picker window but you can load in others; open the Pattern Picker and click the arrow, then choose a set from the bottom of the menu that appears.

Alternatively, create your own patterns; draw a pattern on the canvas, then select it using the Rectangular Marquee Tool and go to Edit > Define Pattern. Next time you open the Pattern Picker it will be listed among the options.



The Brushes palette continued



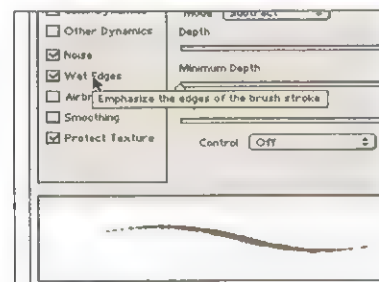
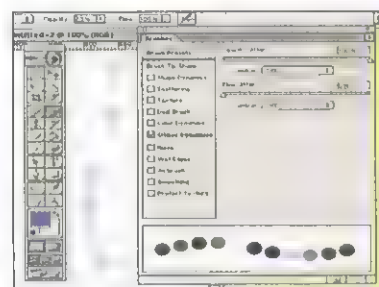
Quick click

While the top group of settings in the Brushes palette offers huge versatility, Noise, Wet Edges, Airbrush, Smoothing and Protect Texture are great for 'quick-click' alterations. If your drawings are a little jagged, for example, tick Smoothing. The Airbrush setting does the same job as the Airbrush button found in the options bar, while Noise adds a speckly grain to your brush.



Computer Arts

You can find out more about all aspects of Photoshop and other graphics packages in Computer Arts magazine. You'll find a superb range of tutorials, projects and advice. Check out their website at www.computerarts.co.uk.



9 The Dual Brush setting enables you to blend a second brushstroke into the main brushstroke using the same path. You'll need to choose a Mode and other familiar parameters: Diameter, Spacing, Scatter and Count. You'll find that the effect is generally most visible if your main brush is quite fat, while the second brush has high Scatter and low Count settings.

10 Color Dynamics enables you to vary the colour painted by a brush. The foreground colour is applied unless you alter the Foreground/Background Jitter so that there's variation between the two. Change the Hue Jitter (the colour), Saturation Jitter (the intensity of the colour) and Brightness Jitter values to alter the variation in each parameter.

On selecting Other Dynamics you'll see some familiar settings: Opacity Jitter and Flow Jitter; these enable you to set point-by-point variation in the opacity and flow of the brushstroke. You can combine the settings with the options bar Opacity and Flow settings for further variation; a low Opacity and high Opacity Jitter creates a stroke made up of pale blue shades here.

The last five items in the list are just toggle switches. Noise adds dirty grain to brushstrokes; Wet Edges adds a realistic paint effect to stroke edges; Airbrush does the same as the options bar button; Smoothing irons out straight parts of a stroke that should be cleanly curved; and Protect Texture enables you to preserve a texture pattern and scale for other brushes.

Organising palettes

Your desktop can quickly become overrun with palettes, so it's a good idea to sort them out

Unless you can afford the luxury of a huge monitor, you'll probably find the Photoshop interface a bit cramped at the best of times. Design applications are now so full of palettes, windows and other elements that it can take quite some time to organise your working area. However, Photoshop has a number of features that can make life a little easier for you.

You're probably already aware that you can toggle the visibility of palettes using the Window menu. Each palette is listed here, and

related palettes are grouped together; for example, the Character palette is grouped with the Paragraph palette, and if you select either one of them from the list you'll see that they appear side by side. The Window menu is also useful for tracking down palettes that you know are somewhere on the screen, but which you've temporarily lost. Once you've got everything laid out exactly as you want it, select Window > Workspace > Save Workspace to save your palette layout for when you next open Photoshop.



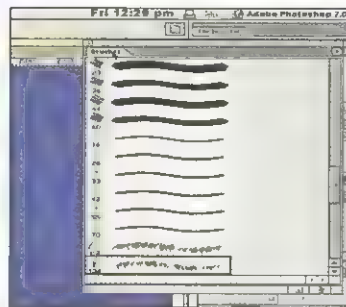
Lost palettes

If you suspect that you may have lost a palette under a jumble of windows, click Window > Workspace > Reset Palette Locations, and Photoshop will restore all your palettes to their default locations. If you still can't find your palette, check that it's ticked under the Windows menu.

THE PALETTE WELL

Keep the Brushes palette out of the way, but easily accessible

It's just not practical to leave the Brushes palette floating on your screen all the time – it's far too big. Select the Brush Tool and you'll see that the Brushes palette is docked in the Palette Well in the top right-hand corner. To open it, click the tab; when the palette is opened a small arrow appears to the right of the word Brushes – click it to open the palette menu, and untick Expanded View to simplify the available options. Alternatively, choose any one of the Thumbnail or List options. To make the palette float permanently, grab the Brushes tab and drag the whole window on to the screen; drag it back to the palette well to dock it again.



The Brushes palette is huge, but there's nothing to stop you 'floating' it, or simplifying the layout if it helps

Brushes as art

You create art with brushstrokes – but can these strokes be a work of art in themselves?



Downloadable brushes

www.timo2000.de is designer Timo Mann's website. You can download his fantastic Photoshop brushes and then use them yourself – choose from Star Wars themes, bubbles, bullet holes and light flares. The download and installation process is very easy and the files are tiny, so it's a hassle-free process. You can also find out about other people's efforts via the Photoshop Brush Ring.

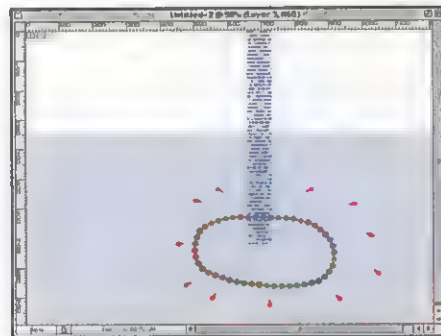


Try the CD brushes

You will find a brushes file on your CD – *jezset.abr*. Before opening the application, place *jezset.abr* in the Adobe Photoshop > Presets > Brushes folder. When you open Photoshop select the Brush Tool, then go to the Brushes palette and choose Load Brushes from the dropdown menu. Find *jezset.abr* in the list and hit OK. Finally, select Brush Presets and scroll to the bottom, where you'll find the three brushes featured in the box on the right.

You've seen that there are many ways in which you can configure Photoshop brushes for producing artwork, but have you considered that the brushstroke itself could be used to create art?

Once you start thinking creatively, you can have a great deal of fun. Just think of any repeating pattern or texture that you see around you – scratches in a drinking glass, blinds hanging from a window, train tracks, footsteps in the snow. You may not be able to create realistic representations of these but, if nothing else, you



Make use of creative brush shapes to produce simple artworks, here you see custom-made Data, Water Splash and Necklace brushes in use

should be inspired to think more creatively when you come back to the Brushes palette.

BRUSH ART IDEAS

COLOURFUL NECKLACES can be drawn using a Hard Round Brush, with a high Spacing setting used to create the individual beads. Increase the Color Dynamics' Hue Jitter to 100%, and use a thin Dual Brush tip as the string holding the beads together.

DATA STREAM EFFECTS can be achieved quite effortlessly. First set the Spacing so that your hard brush dots almost touch. Then turn on Scattering with a high Scatter, high Count and low Count Jitter setting to create rows of dots. Hold down the [Shift] key as you paint to create a straight row of 'data'.

WATER DROPLETS can also be created easily. Select Shape Dynamics, enter a Minimum Diameter and set the Control to Fade. Curve the stroke as you draw it to produce 'splashing' droplets.

Using a graphics tablet

You can enjoy even more control over your brushes if you use a graphics tablet and pen

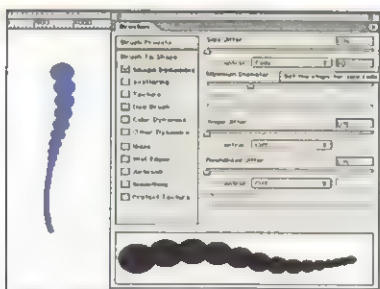


1 While finding your way around the Brushes palette you may have noticed the Control menus. These appear wherever a minimum-to-maximum variation can be made in the brush stroke, but you'll need a graphics tablet to take advantage of them. Start by plugging your tablet into the USB or mouse connection of your computer.

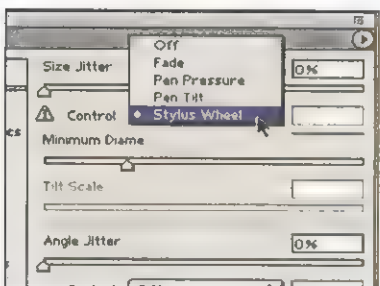


Out of control

If you choose a Control setting and see a warning triangle appear, it means that the hardware currently plugged in doesn't support that particular control. For example, with some tablets you can use the Pen Pressure option, but not Pen Tilt or Stylus Wheel.



2 Open the Brushes palette. Select the Shape Dynamics options, and open the dropdown menu next to the Size Jitter's Control setting. The first control is Fade, which you can use without a graphics tablet. In this case, it decreases the size of the brush along the stroke, using the number of steps that you specify.



3 The Pen Pressure control enables you to vary the brush size according to how hard you press on the pen. Some pen setups also support control according to the angle of the pen on the tablet – Pen Tilt. The Stylus Wheel option enables you to make use of the wheels found on some airbrush-type graphics pens.



Graphics tablets

The leaders in the graphics tablet market are Wacom (www.wacom.com) and Nisls (www.nisls.com) and for good reason – their simple, intuitive designs enable you to quickly pick up the basics.



4 If you look at the Control menu for Angle Jitter you'll notice two more control options. Initial Direction sets the angle of the brush based on the direction when you started the stroke, and Direction sets the angle based on the direction in which the mouse is moving.

Chapter 4

CREATING AND ORGANISING PRESET BRUSHES

It's worth taking the time to save and organise your configured brushes; by combining these with Photoshop's preset brushes you can build up a formidable arsenal of custom tools

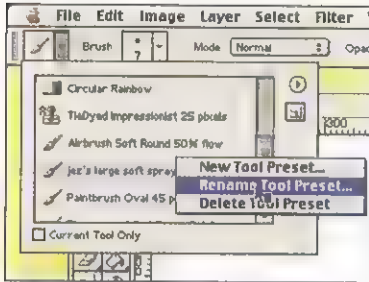
So far we've looked at how the Brush and Pencil tools can be configured and controlled in a variety of ways. In later chapters of this Focus Guide we'll be looking at how you can use the tools to create artwork and edit your photos, but before we start getting creative we need to look at how you can save, load, manage and organise your brushes within Photoshop.

Why save?

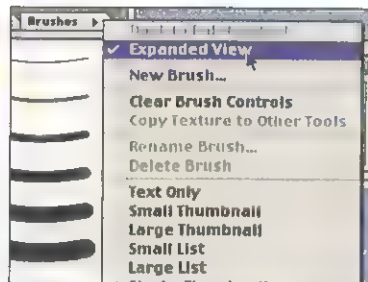
You may wonder why you need to worry about saving a particular brush that you've created; after all, Photoshop comes with so many different brushes already included

(as we'll see) that you'll always be able to find a brush for the job you want to do, right?

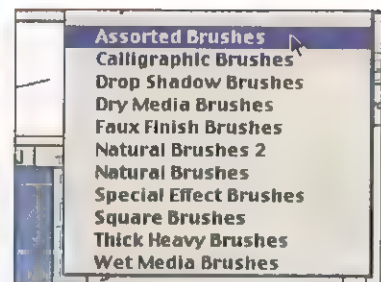
Well, let's consider a particular scenario: you're looking for a brush shape that you can use to cover up a blemish on a car's paintwork in a photo. After much experimentation you come up with the perfect combination of Brush palette settings; you use this brush to touch-up the photo and then move on to do something else, and, as this was just a one-off job, you don't consider that it's worth holding on to those settings you've created. However, a couple of months later, someone sees the touch-up job you



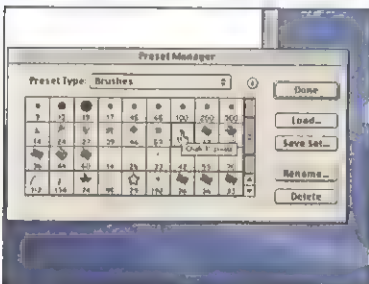
Page 34 Learn how Photoshop's tool presets can make everyday jobs easier



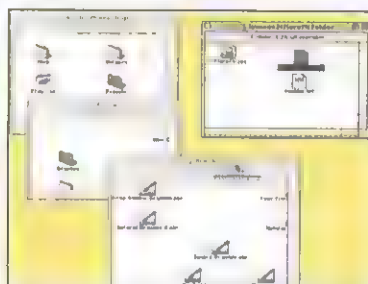
Page 35 Unleash the power of the extensive Brush Presets menu



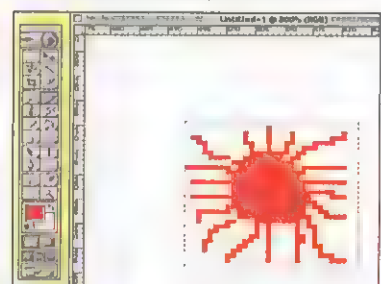
Page 36 Photoshop's brush libraries offer a vast range of specialised tools



Page 37 The Preset Manager makes organising brush libraries much easier



Page 38 Download brushes from the web and save them in Photoshop



Page 39 Define your own shapes to use as brush shapes in Photoshop

did, and asks you to do the same thing to a photo of their car, so you spend ages trying to recreate the brush you used before; eventually you come up with something similar, but it doesn't look quite right. Of course, if you had saved your brush in the first place you would have been guaranteed to get the same results, and in a fraction of the time.

Different ways to save

You already know about tool presets, and you'll be glad to know that any combination of brush settings can be saved, enabling you to access that brush quickly from the options bar in the future. In addition to this, you

can also make up whole groups of custom brushes, which you can then save as libraries.

Imagine, for example, that you're creating an artwork with a wet feel to it, like real paint, and want to put together a set of brushes that will produce this effect. You can create a group of different wet brush types and save them as a 'wet brush' library, so that each time you want to paint in this style you can simply load up the brushes you need and get on with the job. Photoshop makes it easy for you to save your customised brushes and access them at any time, so it pays to get acquainted with the process from the outset.

Saving brushes as tool presets

If you find yourself turning to the same brush effect time after time, save it as a tool preset



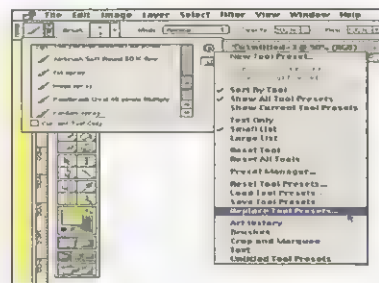
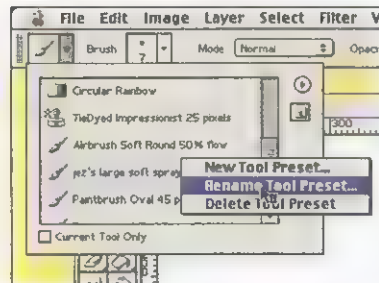
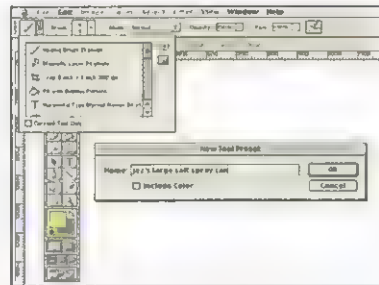
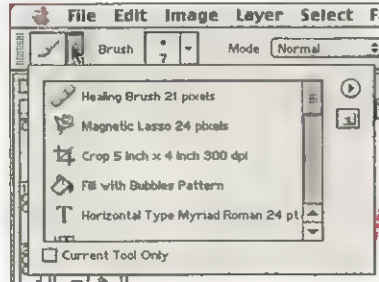
Where do I save?

It will obviously help if your saved preset library can be accessed at any time from the Tool Preset Picker or the Brushes palette menu, just like the Art History, Brushes, Crop and Marquee and Text libraries that come with Photoshop. To make sure that your library is listed there too, choose **Adobe Photoshop > Presets > Tools** as the location. Note that your new library won't be listed in the menu until you restart Photoshop.



Tool Presets palette

The Tool Presets palette (usually grouped with the Actions and History palettes) doubles up the Tool Preset Picker window; you can create a new preset, delete one or access the menu. The current presets shown in the picker window also appear here; this may or may not be useful to you depending on what kind of layout you like, but, as the palette is stacked with others anyway, it's not taking up any extra space, so there's no need to close it.



1 Let's assume that you've created a new brush using the options bar and Brushes palette settings. This is a brush that you would like to save, so that it appears in the Tool Presets menu in the left of the options bar. Click on the Tool Preset Picker to open the menu.

2 Click the Create new tool preset button – it looks like a sheet of paper. You'll be prompted to name your tool preset; try to give it a descriptive name, and keep in mind that this name will pop up as a 'tool tip' when you hover your cursor over the thumbnail image. CS users may find that Include Color may already be ticked in the New Tool Preset pop-up that appears.

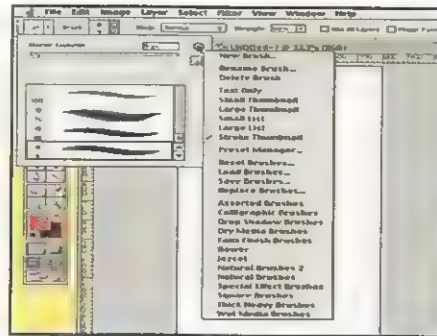
3 With the brush saved as a preset it will appear in the Tool Preset Picker, listed alphabetically with other presets for the same tool. To rename or delete a preset from this list, right-click it (PC) or [Ctrl]-click (Mac) and select from the menu.

4 If you've created several tool presets that are useful for a particular type of job (for example photo editing), these can be saved as a library. In the Tool Preset Picker menu choose **Save Tool Presets**, and then choose a location and name (see the sidebar 'Where do I save?'). To load up just your new library select **Replace Tool Presets** from the Tool Preset Picker menu.

Tool Presets menu

Hidden away in both the Tool Presets Picker and Tool Presets palette is an impressive menu

The Tool Preset Picker's menu is something of a hidden gem. You could easily overlook it entirely, but, having found this set of options, you'll find yourself regularly using them to keep on top of all those tool presets. Open the Tool Preset Picker and click on the tiny arrowhead to open the menu. Alternatively, click the same icon on the Tool Presets palette. Generally speaking, the top half of the menu determines how you see your tool presets listed, while the bottom half decides what you see; which ones are loaded up,



The Brush Preset Picker menu, shown here, differs only slightly in function from the Tool Preset Picker menu

saved or viewable. Knowing what all these settings do certainly makes this menu a lot less scary.

Brush Presets menu

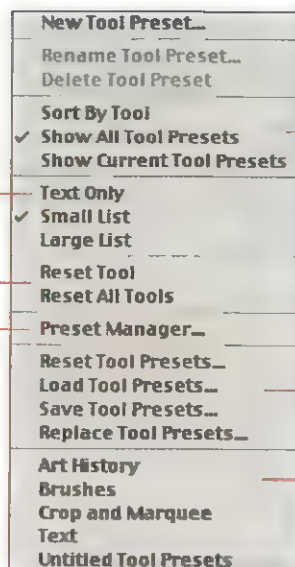
The menu found in the Tool Preset Picker is different from the menu found in the Brush Preset Picker, but only slightly. The options are basically the same, but rather than dealing with tool presets or tool preset libraries you're controlling the brushes – how they're viewed in the lists, and which libraries are displayed.

THE TOOL PRESETS MENU

These three settings enable you to alter the way the tool presets are listed in the palette or picker window.

These options reset the settings for either the current tool in use from the Tool Preset Library (Reset Tool) or all the tools (Reset All Tools).

Preset Manager opens the Preset Manager window, from where you can control which libraries and brushes are displayed in the Tool Preset Picker and the Tool Preset Palette.



There are three options for sorting the list of tool presets, which is useful if you're looking for a preset for a particular tool.

Reset returns the presets to their defaults; Load loads an additional library; Save saves the presets currently listed as a preset library; Replace replaces the current library with a new one.

This is the list of tool preset libraries – select one and load it into the Tool Preset Picker or Tool Preset palette. This has the same effect as clicking Load Tool Presets.

Brush libraries

Once you've customised a brush you can save it in a library for easy access in the future



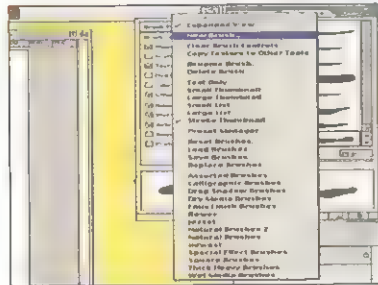
Brush preset vs tool preset

The main difference between saving a brush in a brush library and saving it as a tool preset is that a Tool Preset is saved for a specific tool, and the settings can include a specified colour. When you save settings to a brush library they can be used with any tool that's brush-based, such as the Dodge and Burn tools.

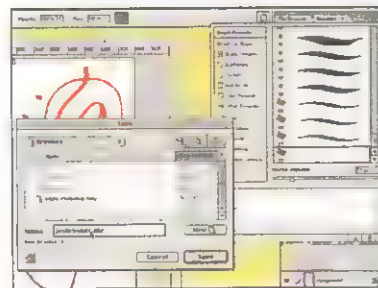


Photoshop preset brushes

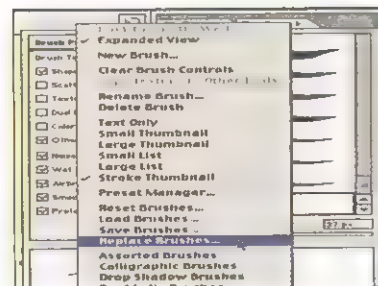
Take the time to check out the brush libraries that come with Photoshop; some are a little impractical, but others will be very useful in everyday work. You'll find them listed in the Brushes palette menu, and you'll probably find it easiest to select Replace Brushes rather than Load Brushes; this will enable you to see what's included in each list.



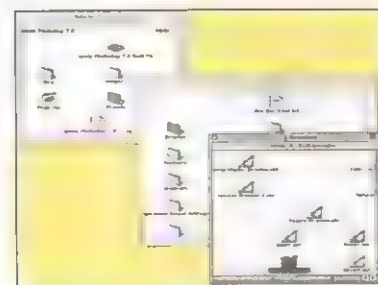
1 Once again we'll assume that you've set up a brush with settings you'd like to save. In the Brushes palette, select Brush Presets at the top of the left-hand pane, then open the Palette menu and choose New Brush. This adds your new brush (once you've named it) to the bottom of the list in the brush presets sections of the palette and the Brush Preset Picker.



2 This brush is saved temporarily, but if you were to reset the Brush presets to the defaults your settings would be lost, so you need to save your customised settings to a brush library. Once you have a few new brush settings of your own at the foot of the brush presets list (repeat step 1 above), open the palette menu and select Save Brushes.



3 As with the tool presets there are various ways of loading and arranging brush libraries. You could choose Load Brushes, but this will list the new library as well as the current one, which can make the brush presets list pretty busy. It's a better idea to select Replace Brushes; one library will be replaced with the other, so you'll only see the brushes you want to use.

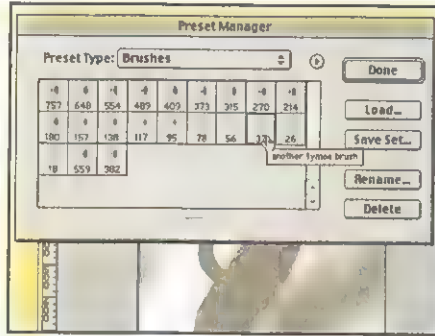


4 As your own libraries are added to the Adobe Photoshop > Presets > Brushes folder of the application, you'll see them in the list in the menu. If you can't find them in the list, try restarting Photoshop.

The Preset Manager

If you're having problems organising your brushes, the Preset Manager can help

You'll often find that Photoshop offers you several different ways of doing the same thing, and the Brush Preset Manager, found under the Brushes Palette menu, is a good example of this. You could do without it altogether, as you can achieve the same results using the options in the Brushes Palette menu; however, the Preset Manager gives you the opportunity to step back and get an overview of your brushes, and you'll also find that it's quicker than using the palette menu. If you're about embark on a big job involving



The Brush Preset Manager enables you to organise the brushes you want to use – very helpful for larger jobs

a large number of preset brushes it's a good idea to gather your resources in the Preset Manager first.



Can't access Preset Manager?

You may find that on opening the Brushes palette menu most of the menu is greyed-out – you can see the Preset Manager option, but you can't click on it. This is probably because you don't have the Brush Presets pane open; make sure you've selected Brush Presets from the top of the palette's list of settings in the left-hand pane and try again.

BRUSH MANAGEMENT BASICS

RESET YOUR BRUSHES to the Photoshop defaults by clicking on the arrowhead and picking Reset Brushes from the menu.

REPLACE YOUR current set of brushes (as seen in the window) with a new set by clicking Replace Brushes from the arrowhead menu, or by selecting a brush library from those listed.

ADD ADDITIONAL brush libraries to the list by clicking Load. The new brushes will appear below the existing ones in the list.

DELETE OR RENAME brushes in the list by selecting them and then hitting Delete or Rename. Hold down [Shift] while selecting to select more than one brush.

SAVE YOUR NEW SET as a new library. Select a brush from the list so that you can click Save Set, and then do so.



Other presets

You can just as easily use the Preset Manager to organise your other presets, including the tool presets. Click the Preset Type menu and you'll see them all listed.

Remember, working with the Preset Manager doesn't actually change the files in your Photoshop folder, so it's impossible to accidentally delete libraries and saved presets; it just affects what you see listed as available for use in a particular Photoshop session.

Other people's brushes

There are lots of places on the web where you can get hold of new Photoshop brushes



Brushes on the CD

The samples found in the links listed here are just a small sample of what you can find on the web. To give you a taste of what's available we've included more than 1000 preset brushes on your CD.

When you save a tool preset or a brush preset library you create a file that's saved within your computer's Photoshop folders. This enables Photoshop users the world over to share their brushes via the internet; they can do this by simply emailing their brush files, or by making a selection of files available for download.

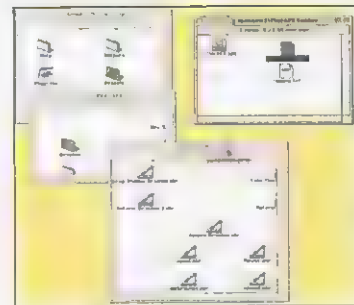
There are also a number of 'brush rings', which work like any other kind of web ring, bringing designers and artists together as a brush-sharing community. Try this URL to

start with: www.ringsurf.com/netring?ring=psbrushes;id=51;action=prev5. This will lead you on to a number of sites offering downloadable brushes, such as www.rebel-heart.net/brushes/, and <http://policeman.free.fr/>. A quick Google search will throw up plenty more sites. In most cases these brushes are free, or 'shareware', requiring you to at least credit, thank or link to the brush's creator. Of course there's nothing to stop you getting involved yourself, and putting your own brushes out there.

STORING DOWNLOADED BRUSHES

Where do you put all these brushes once they're downloaded?

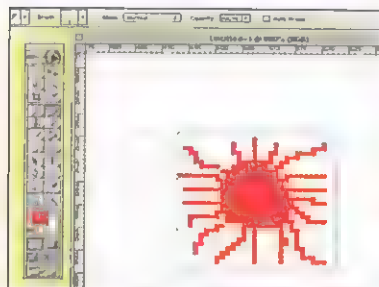
Using downloaded brushes couldn't be easier. Once you hit a site's 'download' button, you'll be asked where you'd like to save the file. If the file ends with .abr (Adobe Brush), choose the folder 'Adobe Photoshop X' – probably found with all your other program files (PC) or applications (Mac). Open the Presets folder, then the Brushes folder, and save the file there. If the download is a folder containing other files (such as README text files describing the brush) then you'll first need to save the folder to an easy-to-find location – the desktop is always a good bet. Then open the folder and move the .abr file to the Brushes folder.



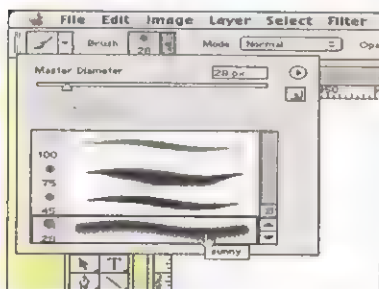
Brush libraries should be placed in the Photoshop > Presets > Brushes folder of the application

Creating brushes from images

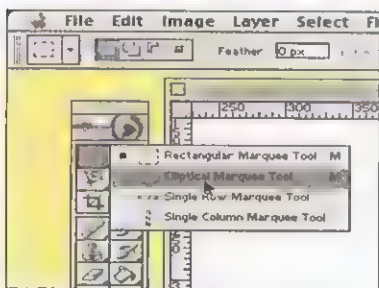
Why opt for a boring, round brush tip when you can create far more interesting ones?



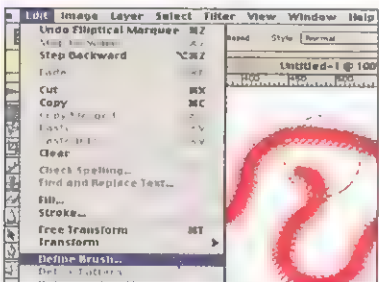
1 Start with a blank canvas measuring 1,000x1,000 pixels, and zoom in to 800%. Select the Rectangular Marquee Tool, hold down the [Shift] key and drag on the canvas to draw a square shape. Then select the Pencil Tool, and draw a shape inside the selected area.



2 To turn this drawing into a brush, select **Edit > Define Brush** – it couldn't be simpler. You'll also need to give your brush a distinctive name. If you now look in the Brush Preset Picker, or the Brushes palette's Brush Presets pane, you'll find the new brush at the foot of the list. Click **Deselect** to remove the Marquee, then select **Brush**.



3 Select your new brush and try it out; if it doesn't behave exactly as you'd like you can fine-tune it just as you would any other brush. Once you've made a nice mess on your canvas, go back to the toolbar and select the **Elliptical Marquee Tool**.



4 Use the tool to select a newly painted area of the canvas. Then select **Edit > Define Brush** again and you'll have another new brush. As before, adjust the brush settings if necessary. Create as many new brushes as you like based on the previous ones and go for broke...



Best results

When creating shapes for your new brushes try to keep them high-contrast; one strong colour on white will give the best results. If you create a brush from an image containing more than one colour, such as a photo, the **Define Brush** operation will translate the selected area into shades of the foreground colour.



Define Pattern

If you've used the **Define Pattern** command (also found under the **Edit** menu), you'll find it easy to grasp the concept of custom brush tips. Later on we'll look at how patterns can be used with brushes to shade or colour your artwork.

CONFIGURING YOUR CANVAS AND COLOURS

The surface you start with and the colours you use will have a big effect on the look of your work, so let's take a closer look at the canvas, and see how to create and choose colours

While it's important to learn the ins and outs of the various Brush Tools options, settings and controls, this knowledge will be of little use if you're not actually going to put it into practice. To this end, the next few chapters of this Focus Guide deal with the practical application of all kinds of brush-type tools, while in the final chapter we'll be pooling all the things we've learned as we work through an entire project from start to finish.

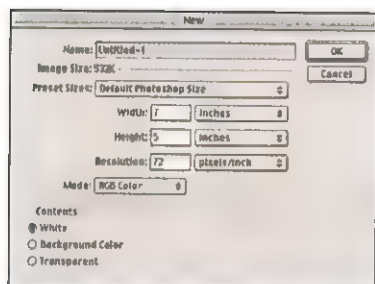
However, before we get down to the painting itself, there are a couple of final things we need to consider in terms of preparation, namely the type of surface that we're going to

be painting on and the colours that we'll be using to paint with.

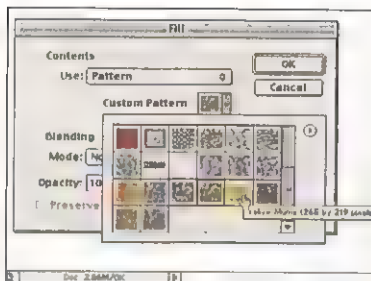
Canvassing a good cause

Any artist will tell you how crucial a canvas can be to a piece of work. It interacts with the media that are applied to it, whether these are inks, paints, pencils, crayons or charcoals, and, as brushes that emulate the look of all these media are available to us in Photoshop, choosing the right canvas for each job is important.

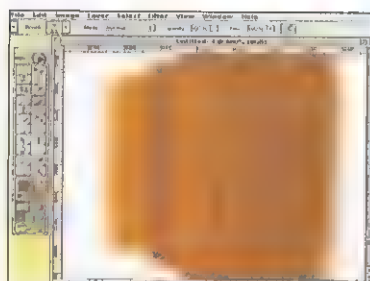
It's easy to just start up a new Photoshop file and charge straight in with our brushes, but paying attention to details such as canvas texture can make a real difference.



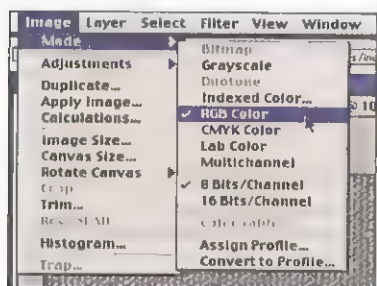
Page 42 Learn how to set the image resolution when starting a new file



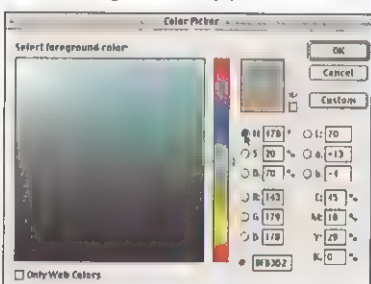
Page 43 Create a realistic textured canvas using Photoshop patterns



Page 44 Create a customised wood effect, complete with lines and knots



Page 45 Learn the difference between RGB, CMYK and Grayscale colour modes



Page 46 Select colours the easy way using the Color Picker window



Page 47 Save colours that you've created in the Swatches palette

For example, a patterned canvas may contain hundreds of tiny grey blobs that make up a cartridge paper effect; this will not only look more realistic if the final piece has blank areas of canvas showing but, if you're painting using a blending mode, the paint will respond to the pattern beneath it, in much the same way as with a physical work of art.

Colour basics

Understanding how colours are made up is also very important to any aspect of Photoshop work. We'll be exploring the fundamentals, such as the difference between RGB and CMYK, and also explaining the

numerical way of defining colours; for example R30 G50 B10. There are also various ways to select and change colours once you've started painting; we've already encountered the Color Picker window, and in this chapter we'll explore it in detail. We'll also look at relevant tools such as the Eyedropper Tool, and at the Color and Swatches palettes, which offer different ways of selecting and saving colours respectively.

So for the moment we'll be taking a break from brushes. However, by the end of this chapter you'll know how to create a canvas to paint on, and how to create and select the colours you want to apply to it.

Image resolution

People often underestimate the importance of image resolution and its effect on file size



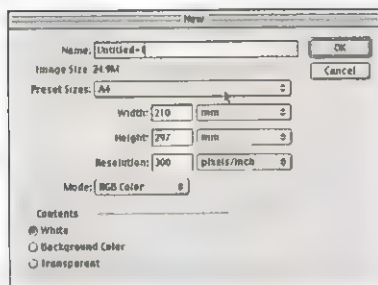
Resample Image

Consider a photo that's high resolution (1,600x1,200), but is shown at 72dpi when you open the Image Size window. Not only will this produce a very low quality print, it will also be huge – the width will be 56.44 cm and height is 42.33 cm. If you untick Resample Image and change Resolution to 300 the image quality will be maintained and the file will fit an A4 page.

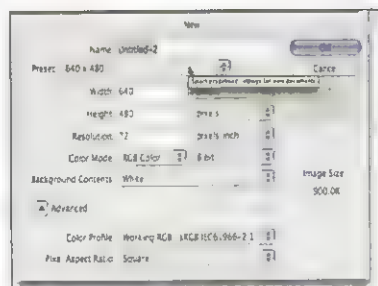


Which dpi?

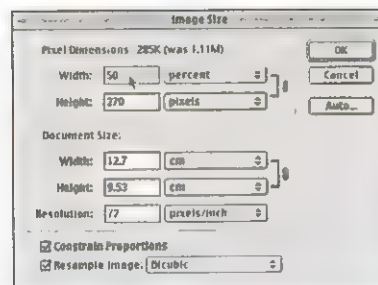
As a rule we use 72dpi for web or computer-viewed work and 300dpi for printed work – most printers output at least this resolution. If in doubt (you may want to eventually output as both), start off with a 300dpi file. If you start with a 72dpi file and then change it to 300dpi you'll lose quality; to see an example, find a web page with a photo on it (which will be 72dpi) and print it out.



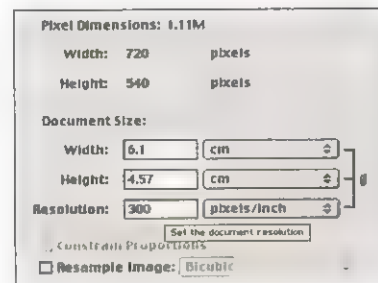
Select **File > New**, and study the dialog that appears. To start with, notice that you can pick a file size from the **Preset Sizes** list. Choose **A4**, and notice that the width and height are shown in mm. The **Resolution** is automatically set to 300dpi, which is the minimum amount of detail you need in your image if it's to be printed at high quality.



Now select **640 x 480** or **720 x 540 Std NTSC 601**; the measurements are in pixels, as this is relevant to screen-based files, and the resolution is set to 72dpi, as this is the resolution of computer monitors. CS users can also configure additional, Advanced settings, for **Color Profile** and **Pixel Aspect Ratio** (the shape of the pixels).



Once you've decided on the dimensions and resolution of your file hit **OK**, and paint something randomly on the canvas. Now let's try changing the file dimensions and resolution to see how it affects the image. Select **Image > Image Size**. You can change the width and height according to pixels and percentage (**Pixel Dimensions**) or mm and cm (**Document Size**).

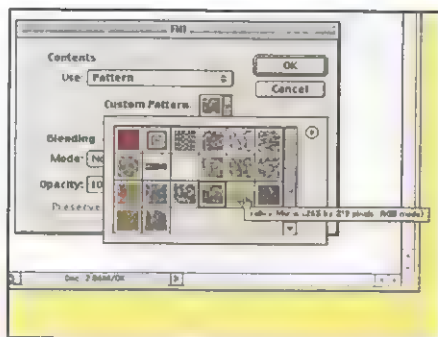


Constrain Proportions should be ticked if you want the image to remain in the same scale – you'll see **Width** update if you change **Height**, and vice-versa. If you're changing the size (for example in cm) of an image, but want it to contain the same number of pixels so the resolution doesn't change, untick **Resample Image** first.

Creating textured canvasses

A 'blank' canvas is rarely blank, and Photoshop canvases don't have to be blank either

Look closely at a piece of A4 paper and you'll notice dust particles, hair, the fibres running through the paper, and perhaps some kind of grain or even a watermark. So, if you're trying to make your artwork look truly realistic, why not incorporate these surface features into the canvas? This could be especially helpful if you're trying to cheat the viewer into thinking that they're looking at a scanned image or photo, or trying to create a realistic watercolour. Don't forget that you can use the Preset Manager



We can simulate texture effects using Photoshop filters and Patterns; sometimes you'll need to use a combination of the two

to load up new Photoshop pattern sets – or save and use your own custom-made ones.



Permanent changes

If you use a filter, or somehow paint a new texture into an image, make sure you're not making a permanent change to your image where you don't want to! The safest bet is to create a new layer and apply the texture to it. This means you can turn the layer on and off as necessary, and dispose of it without damaging the rest of your image.

TEXTURE IDEAS

LAYER your textures by making stacks of layers, each containing a different pattern and set to different blending modes. As long as the original tile for each different pattern is a different size, this should create a random, non-repeating surface.

PHOTOGRAPHS of surfaces can be used as canvasses too. With the photo as the background layer, create a new layer above to paint on to, using blending modes to blend the two.

FILTERS can be used to generate textures. Under the Filter menu the first stop is obviously the Texture set, but also try the Noise, Pixelate, Artistic, Render and Sketch filters, mixing them together.

COLOURS in a background texture shouldn't be so vibrant that they'll draw the viewer's attention away from the main subject – the painting. Likewise, too much detail or contrast can also be distracting.



Pattern Maker

Under the Filter menu you'll find the Pattern Maker. In the Pattern Maker window first use the Marquee Tool to select a tile area for the pattern, then click Generate to produce a random pattern based on your tile. The Generate button then changes to read Generate Again – click it a few times to see more random patterns. You can hit OK to use a pattern in your image, set preview to Show Original to start again or save your tile for later use, by clicking the disk icon in the bottom-left of Tile History.

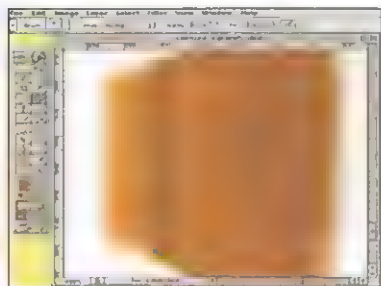
Creating a wood effect

Here's a simple way to create a wood effect using the Liquify filter in Photoshop 7 and CS

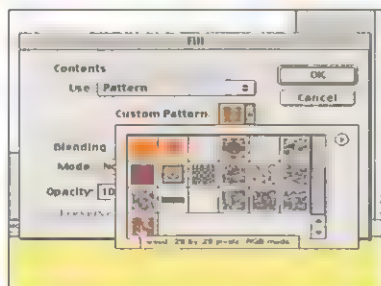


Managing patterns

We've seen the Preset Manager window before, and you can use it to organise your patterns too; click on Preset Type and select Patterns. Just as with the brush libraries you can load up other lists of patterns supplied with Photoshop, or save your own patterns.



Create a 1000x1000 pixel canvas, and zoom in to 600%. Choose a dark brown for the foreground colour, and a lighter shade of brown for the background colour. Then, using a variety of soft and hard-edged brushes, paint a series of vertical stripes (hold down [Shift]) over each other.

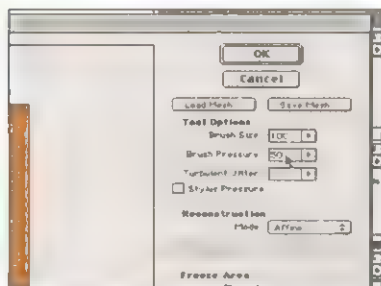


Using the Rectangular Marquee Tool, select an area that will be the basis for your repeating pattern. Select Edit > Define Pattern and name it 'wood'. Deselect the area by clicking Select > Deselect or using the shortcut [Alt/Option]+[D]. To fill the canvas with the Pattern click Edit > Fill and select Pattern from the Use options. Select your pattern from the thumbnail list.



Down in the woods

Remember, not all wood looks the same. The grain we created in this tutorial looks a little like walnut, but other types may contain less knots or smoother lines, and will be coloured differently; have a look at some real wood to get ideas.



It still doesn't look much like real wood, so we need to add some grain. Select Liquify from the Filter menu and a huge interface will appear. Keep in mind that the work we're doing is pretty major, so each change may take a moment to render. Set Brush Size to 100 and Brush Pressure to 50; CS users will see even more controls, although they're not needed here.

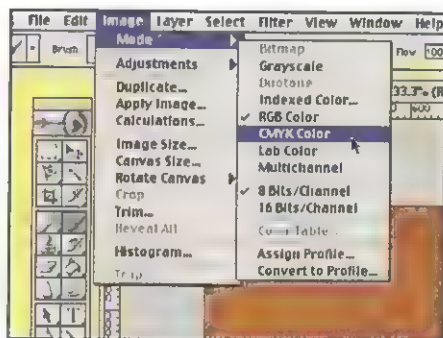


You can now use the tools on the left to alter the image. The top six will be the most useful: Warp, Turbulence, Twirl Clockwise, Twirl Anticlockwise, Pucker and Bloat. Try using them with different brush sizes and pressure settings, and don't be afraid to go a bit wild – you can always go back to square one by clicking Revert. When you've finished click OK. Voila, instant wood!

RGB, CMYK and Grayscale

Before we get too involved in colours, it helps if you understand the various colour modes

When creating a new file you may have noticed the Mode option, which can be set to Bitmap, Grayscale, RGB Color, CMYK Color or Lab Color. For brushwork we're only really interested in three of these: RGB colours are made up of Red, Green and Blue, as these are the three colours that make up a monitor pixel. CMYK mode is also made up of three colours – Cyan, Magenta and Yellow, and Black (K) is also used to make up the full range of shades in the same way that a printer mixes colours. Finally,



You can easily convert one file type to another by clicking on Image > Mode and then selecting the new colour mode

Grayscale files are made up of shades of grey; you can think of them as 'black and white' images.



Out of gamut

It's possible to choose colours that a printer can't reproduce; a warning triangle will appear in the Color palette. These colours can be seen as grey in an image if you click on View Proof Setup > Working CMYK and then View > Gamut Warning. You can either change the colour in the image (more later), or just press ahead, allowing the printer to produce the nearest possible colour.

MIX IT UP

RGB COLOURS are made from measurements of Red, Green and Blue, from 0 to 255, for example R23 G150 B255. This type of file is suited for use on monitors, televisions or any device that uses a screen to display colour. RGB Color is also the most practical mode, as it allows you access to all the Photoshop options and filters.

CMYK COLOURS are made from Cyan, Yellow, Magenta and Black, and each is measured as a percentage, for example C23 Y79 K100. Most domestic printers will automatically convert RGB files into their CMYK equivalents. If you're supplying images or photos for other printers however, check to see which file type is needed.

GRAYSCALE FILES are made up of shades of grey, and measured by the amount of black, 0-100%. It's not advisable to work with Grayscale files unless you know for certain that they're going to be output as grayscale – they can't be converted into colour.



Web-safe colours

On picking RGB colours, keep in mind that not every colour in the range is guaranteed to show on all monitors – hardware, screen types and monitor temperature will affect this. To ensure that most people will see your work as it should be, only use 'web-safe' colours. Tick Only Web Colors in the Color picker window or in the Color palette, and select Web Color Sliders from the arrowhead menu.

Making colours and swatches

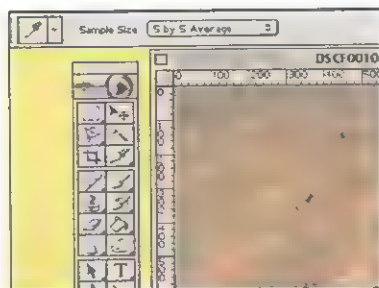
There are many ways to select a colour in Photoshop – let's walk through a few of them



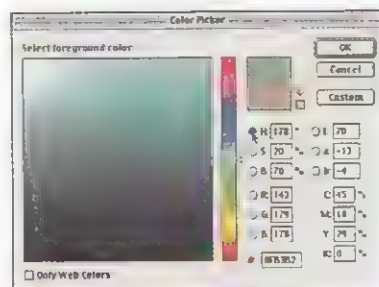
Instant colour scheme
Make a beeline for www.colormatch.dk – like all of the best websites, the idea is very simple. The red green and blue sliders are like the ones you find in Photoshop, but the idea here is to mix a colour which is then automatically matched with five other colours to make up a complementary palette. Keep in mind that the colours are referred to by their Hexadecimal (or HEX) numbers, such as #FF002A.



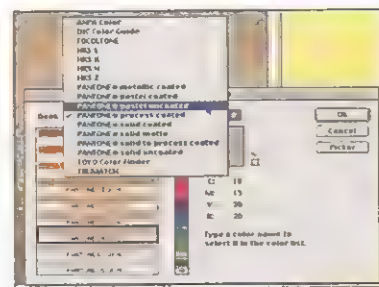
Color Sampler Tool
While using the Eyedropper, [Shift]-click to place a colour sampler on the image. These are numbered, and display information about the colour in the info palette. They only appear when you have the Eyedropper Tool or Color Sampler Tool (under the Eyedropper) selected, so they don't interfere with the image layout too much. Using the Color Sampler Tool you can also drag the samplers around, and you can remove them by [Alt]-clicking on them.



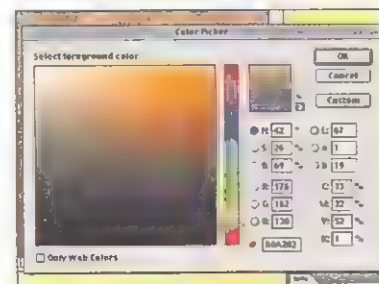
Open a photo file. To select an existing colour, select the Eyedropper Tool and click in the photo. If the colour in your image is mottled or textured you can take an 'average' colour by setting Sample Size to 5 by 5 Average. To make the colour your background colour, first click the double-ended arrow icon by the colour swatches in the toolbar.



Clicking the foreground or background swatch in the toolbar opens the Color Picker. The boxes enable you to pick colours according to Hue/Saturation/Brightness, Red/Green/Blue or LAB colour (L is lightness, 'a' represents the colours from green to red and 'b' represents blue to yellow). If you click the H button it helpfully shows the full spectrum of colours in the slider.



Note that you can also choose RGB, CMYK or HEX colours by entering numbers in the fields – useful when you need to choose an exact colour by name. You may also have heard references to colour types such as Pantone colours; if you click Custom in the Color Picker you can choose colours from a range of 'books', just like looking at samples on a paint chart.

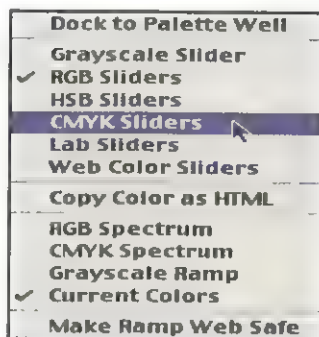


You can check a colour in your image while the Color Picker is open; move the cursor off the window and click on the canvas. The Color Picker's slider is used to pick a colour according to the primary parameter, while the larger switch sets the secondary parameters. For example, with H ticked the slider shows all Hues; the larger switch governs Brightness and Saturation.

Color and Swatches palettes

The Color palette is similar to the Color Picker, while the Swatches palette lets us save colours

The Color palette doubles up the function of the Color Picker, but that's no reason to ignore it. To start with, it can be left open for easy access; by default you'll find it grouped with the Swatches and Styles palettes. The slider system works a little differently, but this enables you to see exactly what levels of Red, Green and Blue or Cyan, Magenta, Yellow and Black make up your colour, and the strip-shaped ramp at the bottom of the palette allows for another method of picking your colours. Once the



Change the type of sliders used to select a colour (the 'Sliders' menu options) and the function of the ramp (the bottom five options)

perfect colour has been obtained you won't want to lose it, and you can save it in the Swatches palette.



Preset Manager

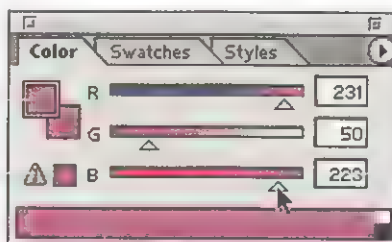
Once again we wheel out the Preset Manager – you'll soon appreciate how useful this little window can be! In the Swatches palette, click the arrowhead icon, then Preset Manager. From here you can see the colours listed, replace one swatch of colours with another, load in extra swatches or add custom-made swatches.

THE PALETTES

Click the foreground or background colour thumbnail to define which colour you're setting. Click on it again to bring up the Color Picker window.

This hazard triangle indicates that the current colour is Out Of Gamut, so unless it's changed the printer will replace it with the closest printable colour.

This ramp can be set (via the menu) to show the RGB Spectrum, CMYK Spectrum, Grayscale Ramp or Current Colors. Click on a colour in the ramp to select it.



As usual the arrowhead icon opens the Palette menu. From here you can set the kind of sliders and ramps used to mix colours.

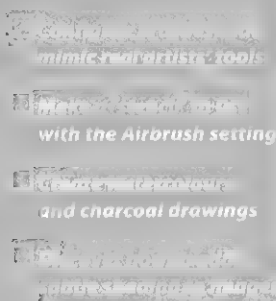
Enter numbers 1-255 for RGB colours or 0-100 for CMYK and Grayscale colours. Alternatively, use the sliders to mix a colour.



To save a foreground colour click the New File icon. To delete a colour from the current swatches, grab it and drag it to the trashcan icon.

CREATING BASIC ARTWORK WITH THE BRUSH TOOL

In this chapter...



mimic real artists' tools

with the Airbrush setting

and charcoal drawings

Now that we've got our canvas and paints ready it's time we got down to some painting. This chapter explores techniques for creating simple artworks using Photoshop brushes

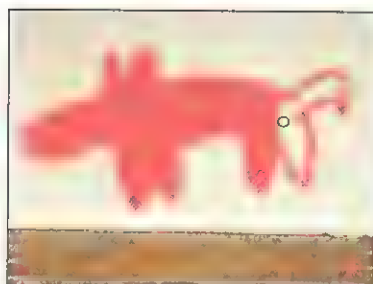
Each new version of Photoshop has incorporated new tools and features for creating original artwork. While the industry standard software for many graphic designers and artists is generally Macromedia's Freehand or Adobe Illustrator, this is often for no other reason than that they've always been regarded as 'the tools for the job'.

In many scenarios, this is certainly the case, as there are of course plenty of things that Photoshop can't do as well as these packages when it comes to creating art. However, those 'in the know' are increasingly turning to Photoshop tools such as the brushes to create artwork that

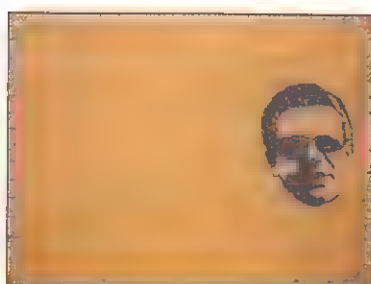
ranges from the perfectly acceptable to the spectacular – after all, why splash out on two applications if one will cover all your needs? In this chapter we'll explore a wide range of painting techniques, and give you an idea of the kind of art you can create in Photoshop.

The artist in you

The Brush Tool can easily be configured to emulate real artists' tools. We've already looked at one example of this – the Airbrush setting in the options bar simulates the behaviour of a real airbrush. By adjusting the Brushes palette controls we can create a passable



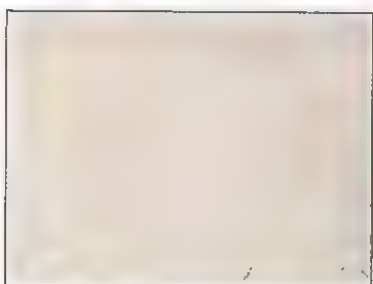
Page 50 Spray graffiti to your heart's content using the Airbrush preset



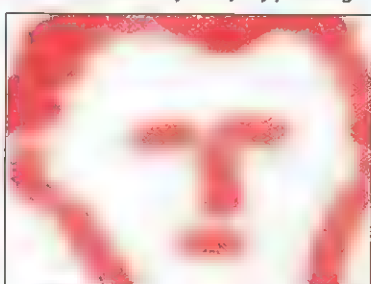
Page 51 Use various selection tools to create a stencil for your spray painting



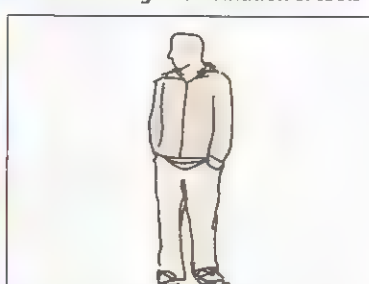
Page 52 Watercolour effects can be simulated using a combination of tools



Page 53 Sometimes it's hard to find inspiration – try putting pen to paper



Page 56 Apply filters to your drawings to create striking art effects



Page 57 Use layer masks to apply shading effects to your artwork

imitation of many other media tools. Once you've set up your brushes, how you use them is equally as important. We'll cover a wide variety of painting styles over the next few pages, using charcoal brushes for life drawings, watercolour brushes for landscapes, oil painting brushes for portraits and airbrushes for graffiti, to name but a few. We'll also be using a variety of canvas effects, from woven fibres and cartridge paper to walls.

A world of inspiration

The intention of this chapter isn't really to tell you what to do, but rather to show you what you *can* do.

The tutorials and tips provided here should inspire you to think creatively about your own work, and about how you can apply the Brush Tool in different ways.

While our advice will hopefully inspire you to greater things, there are plenty of research tools and resources, and brainstorming techniques, that you can call on. And, although the web is of course a great place to find inspiration and help, remember that there's a whole world outside your computer, so look all around you for patterns, shapes and colours, and even for atmospheres or sounds that could influence your work.

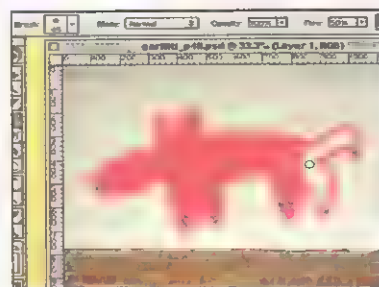
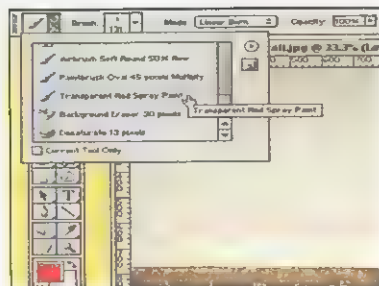
Creating graffiti

Creating realistic spray-painted artwork in Photoshop is easy – and it's completely legal!



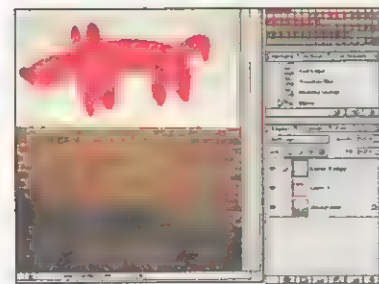
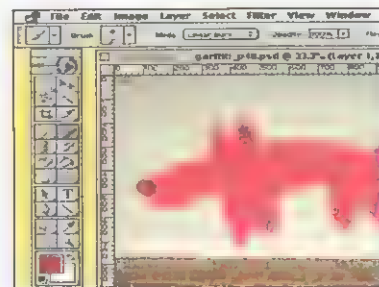
Burning issue

Use the Transparent Spray brush preset on the white_wall.jpg background layer and see how the paint builds up a stronger colour as it 'linear burns' into the wall. Now paint a similar stroke in a new layer; as it's burning on to transparency (the layer is empty) there's no colour build-up. Finally, paint a stroke with the painting Mode set to Normal and the layer blending mode set to Linear Burn – it's the same as our first stroke.



Graffiti inspiration

Graffiti is illegal in most places, but there's nothing to stop you looking at graffiti websites for inspiration. Try www.graffiti.org, www.berlingraffitisux.de, www.duncancumming.co.uk and www.woostercollective.com, or simply unearth thousands of similar sites by typing 'graffiti' into Google.com. Try to pick out different styles and see how backgrounds and 'canvases' complement the subject, and how the painting works with 'street furniture' such as road signs and vehicles.



Open the file white_wall.jpg from the CD. As we're still learning about spray paint effects, create a new layer by clicking the Create a new layer icon at the foot of the Layers palette. We'll start by looking at two tool presets; select the Brush Tool and scroll through the list until you get to the Airbrush and Transparent Red Spray Paint presets.

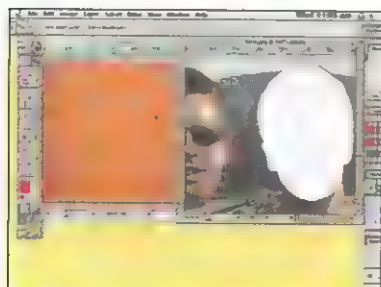
Select the Airbrush preset and try it out on the wall (in your new layer). You'll notice this is basically just a soft, round brush with 50% Flow and Airbrush ticked. That flow setting helps blend the paint in to the textured background; zoom in and you'll see how it works.

Now pick the Transparent Red Spray preset and see how this differs. The brush head is an oval shape, so change this in the Brushes palette. The Flow is a little lower but, most interestingly, the Mode is set to Linear Burn. If your paint colour is dark, it will darken noticeably as you build up layers; if you're using a light colour the effect will be less pronounced.

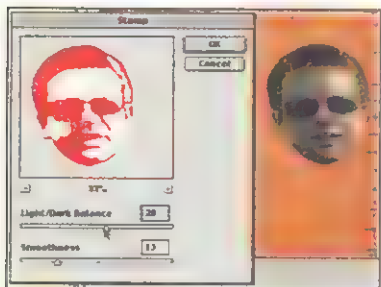
Finally, right-click (PC) or [Control]-click (Mac) on the new layer and duplicate it. Click Filter > Stylize > Find Edges, then apply a Gaussian Blur of about 10 pixels. This will create a spray-effect outline of your image. If you now change the blending mode of this layer to something like Soft Light and move it around using the Move Tool you can add realistic shading to your graffiti.

Stencil graffiti

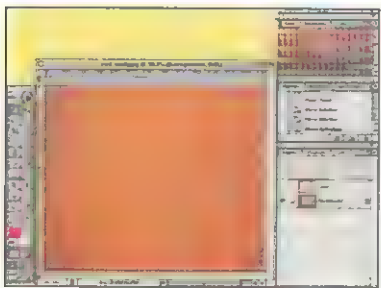
You may have seen stencilled graffiti around; we can produce the same effect in Photoshop



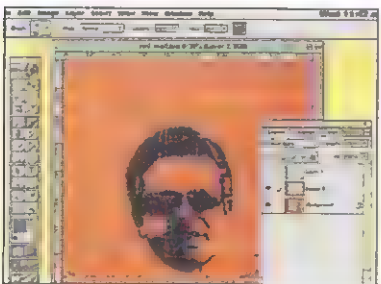
1 Open the file you would like to spray on to – you can use *red_wall.jpg* from the CD – and also open *face.jpg*. Next use the Lasso Tool to roughly draw around the face, then switch to the Move Tool. Align the *red_wall.jpg* canvas next to *face.jpg*, then grab from the centre of the selected face and drag it on to the wall; i.e. from one file into a new layer in the other file.



2 In *red_wall.jpg* [Control]-click (PC) or [Command]-click (Mac) to open the Transform frame around the face. Hold down [Shift] to constrain the dimensions, and drag from any corner outwards to enlarge the face. Hit [Return] to apply the change. To make the stencil shape, select Filter > Sketch > Stamp. Set Light/Dark Balance to 28 and Smoothness to 13 to create a cut-out effect. Hit OK.



3 Select the Magic Wand Tool and untick Contiguous so we can select all areas of one colour. Click on the coloured part of the face to select it, then click the Eye icon on the face layer to turn it off – we have our stencil! Select the Background layer so we can move the stencil. Select the Rectangular Marquee and hover over your stencil shape; drag it around when you see the Move Tool icon.



4 Create a Linear Burn adjustment layer. To soften the edges of the stencil, go to Select > Feather and enter 1 pixel. Select a colour and large, soft brush. Set Flow to 25% and tick Airbrush. In one rough pass, paint over your 'stencil'. Then Select > Feather by 15 pixels and paint back over some areas. Go to Edit > Transform > Perspective, and reshape the graffiti to match the wall.



Banksy

Banksy is one of the most famous purveyors of stencilled graffiti, regularly subverting suburban streets with his self-styled 'Brandalism'. His recent gallery exhibition even featured artwork sprayed on to farmyard animals. To find out more about his work, visit www.banksy.co.uk.



Quick shape transform

Your spraying might need a little tweak to make it look as though it's sprayed on to the surface. [Control]-click (PC) or [Command]-click (Mac) to open the Transform frame around the object. Drag the handles to change the shape and size of the object; hold [Shift] at the same time to constrain proportions. To skew the shape, hold [Control]+[Alt] (PC) or [Command]+[Alt] (Mac) while dragging a handle; to change the perspective, hold down [Control]+[Shift] ([Command]+[Shift]).

Watercolour painting

If Photoshop had been around in Monet's time who knows what he might have created...



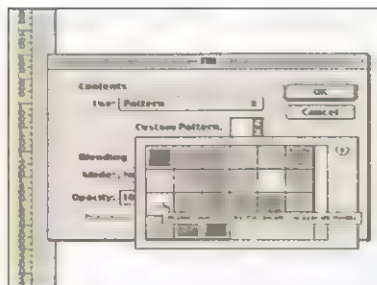
Stack it up

Rather than stacking new layers of watercolours according to the amount of detail (as shown in this walkthrough), you could layer them according to distance, so the mountains would be on the bottom layer, then the trees, then the grass, then the stream. You can alter the opacities to additionally fade elements into the background if necessary.

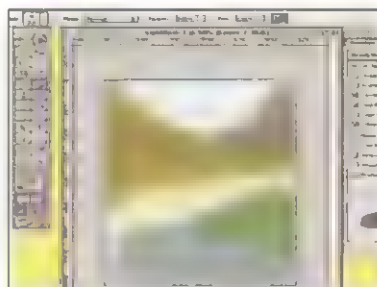


More masterpieces

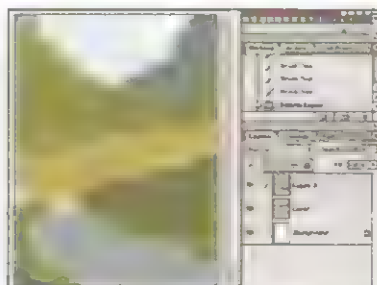
You'll find two more watercolour pieces of mine on the CD – *night.jpg* and *shoreham.jpg*. You'll see that although I couldn't drag my Mac out 'on location', I've managed to at least capture some of the atmosphere. Watercolour painting isn't necessarily about illustrating every nook and cranny; creating a general impression is more important, which is why watercolour artists often paint vast landscapes.



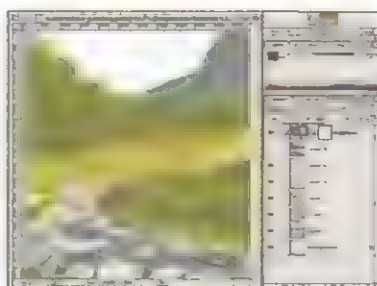
1 First find a photo to base your painting on; a landscape is ideal, like the one in *watercolour.jpg*. Use a printed image so that you can see the colours better. Open a 72dpi file that matches the dimensions of your photo. In the Preset Manager select Patterns, and load up the Artists Surfaces group. Then click on Edit > Fill > Pattern, and choose the Watercolor option.



2 Choose Wet Media Brushes from the Brushes palette menu and click OK. At the bottom of this group of brushes you'll find six different Watercolor setups. Select the Watercolor Fat Tip and change the Master Diameter to 200. In a new layer, using the appropriate colours, roughly block in washes of background colour – we're just after a rough impression at this stage.



3 Create a new layer, above the washes. Use the Watercolor Light Opacity brush to add more detail, painting in horizontal strokes; we're building up detail and lighting in levels, so don't worry about adding grass, rocks and the like yet. In another new layer add more detail with the Watercolour Heavily Loaded brush; you may find it helps blend in the detail if you lower the Opacity.



4 Keep adding layers like this, and don't be afraid to change some of the brush settings as you go. For example, turn off the Dual Brush for a smoother edge, or set some Pen Pressure controls if you're using a graphics tablet. Once all the layers are built up, use the Opacity control on each one and experiment with blending modes to blend in the different elements.

Finding inspiration

Do you ever find yourself staring blankly at the monitor, lost for ideas? Perhaps we can help...

Everyone hits a creative brick wall at some time or another, however talented they are. You may have the determination to produce a fantastic piece of work, and you may well feel as if nothing can stop you, but when it comes to the crunch, sometimes there's just nothing going on in the brain department.

This situation can be especially frustrating if you've been commissioned to produce a piece of work and find yourself up against a tight deadline. Sometimes the very situation of needing to be inspired

and desperately trying to force something out can worsen the block, but there is a way out. Simply step away from your computer and take a good long break – it's as easy as that. The chances are that you'll not only be uninspired but stressed as well, so go for a walk, ride a bike, sit in the garden, read the paper. If television really helps you to unwind then go for that, but try and keep away from screen-based diversions if possible. Then, as ideas start coming to you, note them down or roughly sketch them out for later.



Goggle eyes

Staring at a screen for too long will not only stress you out, it can affect your vision, so make sure you have regular eye tests. Also check your posture; your body should bend at right angles at the hip and then again at the knee, with your feet flat on the floor. The top of your monitor should be positioned at eye level.

BRAINSTORMING

Sometimes just playing with ideas can help you to develop them

Start by writing the focal point of your brief or piece – even if this is just one word – on the centre of a sheet of A4. Surround this with associated words, and then start making more associations – outwards again or even between items. Aim to cover your entire sheet with new associations. Don't worry about whether they're 'right' or 'wrong'; the idea is simply to get your creative mind working again. You could even apply the same process to sketching out ideas – starting with an element, symbol or shape and developing that. Or why not pick up your camera – images recorded on this 'visual notebook' can often be useful later.



You may find that putting ideas down on paper can be more productive than working at your computer

Charcoal drawing

Charcoals are notoriously messy to work with – unless of course you're using Photoshop!



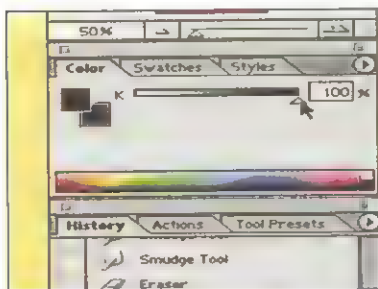
Smudging

The finger is used to blend and smudge the charcoal in real charcoal drawing, and you can do the same thing in Photoshop using the Smudge Tool. It's located in the seventh row from the top in the left-hand column of the toolbar, grouped with the Blur and Sharpen tools. Depending on what you would like the tool to do, set the Mode in the options bar to Darken, Lighten or, for general-purpose smudging, Luminosity.

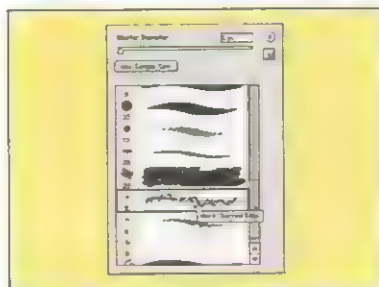


Margie Crisp

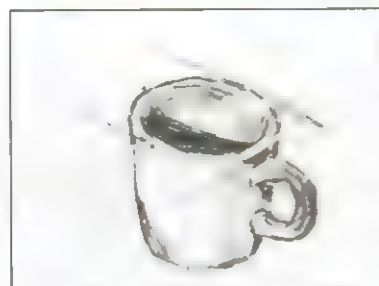
This charcoal artist obviously takes a little more time over her work than I did – check out her site at www.margiecrisp.com/charcoal/ for the proof! Even though these are 'real' charcoal drawings, we can still emulate many of the techniques. See how Crisp uses smudged charcoal to create atmospheric washes, contrasted with the fine detail of grass, trees, fences and other features.



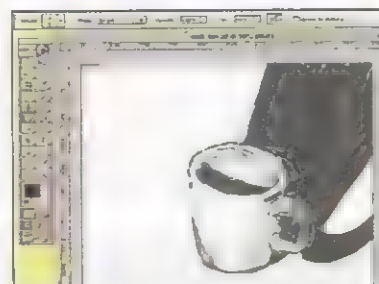
1 Create a Grayscale file, 1,000x1,000 pixels and 72dpi. Select the Brush Tool and, in the Brushes palette, load the Dry Media Brushes. We'll only be drawing with shades of grey (because this is a grayscale image), so the Color palette shows a simple slider which we can use to select colours – it's a lot quicker than using the Color Picker. Pick a 100% grey – also known as black!



2 If you have a graphics tablet you can use it now. Select the Brush Tool and right-click (PC) or [Control]-click (Mac) on the canvas to call up the Brush Preset Picker. Select Hard Charcoal Edge, and see what controls are set in the Brushes palette. If you're using a tablet, tick Shape Dynamics; under Size Jitter set Control to Pen Pressure, and push the Minimum Diameter up to 50%.



3 Now start drawing. The width of your brush will respond to the pressure you apply to the pen, and the low Flow setting of the brush also adds to the effect; compare a fast stroke to a slow, deliberate one. Also try out the Charcoal Flat Brush; this makes a harder, sharper stroke that's useful for more deliberate shading and detail.

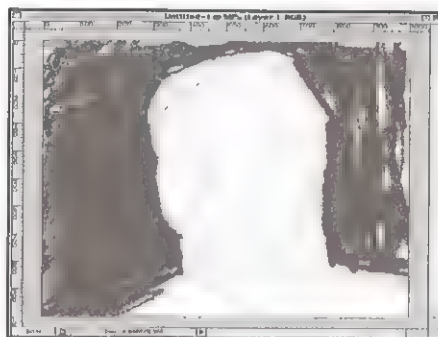


4 If you're using a graphics tablet the reverse end of the pen may erase; otherwise you'll need to switch to Eraser to rub away mistakes; don't forget that you can set up erasers with the same brush type, Opacity and Flow settings as the brushes. This simple, quick way of drawing can be very rewarding, as the charcoal brushes do an excellent job of emulating the real thing.

More media brushes

We've looked at a few techniques from the artist's box, but there are lots more to discover

Over the last few pages we've done a pretty good job of combining brushes and techniques to simulate a variety of artistic disciplines, but there are plenty more to play with. Try out the Dry Media, Wet Media, Natural, Thick Heavy, Calligraphic and Assorted brush libraries; remember that hovering the cursor over a thumbnail in the Brush Preset Picker gives you the name of the set. So far we've been using brushes from the same set in each image, but there's nothing to stop you mixing them; watercolour artists



Use mixed media to suit different needs when painting – wet brushes for washes, dry ones for textures and fine ones for details

will often sketch out a painting in pencil first, and pencil sketches can easily be coloured with 'inks'.



From your head

You don't always need to work from a reference image to create artwork; it's fine to work from memory, or just make something up, but it helps if you understand proportion, perspective and the like. For example, many people draw eyes near the top of a head, but in fact they sit halfway between the chin and crown.

REALITY BITES

CUSTOMISE Photoshop brushes where necessary to create exactly what you want; you should be able to find a near-ideal brush for most jobs, however, so you shouldn't have to do much tweaking.

DRIPS AND running, 'wet' paint are easy to create. Pick a large, soft, round brush. In Shape Dynamics, set Size Jitter to 0, Control to Fade (25 steps) and Minimum Diameter to 50%. Tick Wet Edges. Now paint a drip, starting from the bottom upwards.

POINTILLIST ART can be created using a brush with a fine, round, hard head. Set the Size Control in Shape Dynamics to Fade over 20 steps. Add Scatter settings for more points on each click.

OIL PAINTING brushes can be found in the Wet Media brushes library. Allow yourself to be bold with some of these chunkier brushes, and don't forget that you can use layers for extra control over their effects.



More vandalism

You'll have seen how people use marker pens, biro's and even scratching to leave their mark on walls and doors in places such as public toilets. A level of communication even takes place as people respond to previous messages. So why not use a photo of a toilet door as a kind of message board? You send it off, someone writes on it, they pass it on to someone else, and so it goes on...

Using filters for brush effects

We've seen how the brush controls are used, but why not let filters do some of the work?



CS Filter Gallery

Photoshop CS users will find that when they select many filters the Filter Gallery pops up; it's basically an extension of the normal controls, but with a thumbnail gallery that enables you to quickly try out different filters before applying them. This is a real timesaver if you're experimenting, but not so useful for those with more experience of filters. If you'd rather see your controls in the old way, click the arrow button to hide the gallery.

There are lots of different ways in which we can set up the Brush Tool. We can select a brush tip, or create our own, and then we can configure the various settings to determine how the brush is applied. Finally, the Brushes palette offers a multitude of behaviours and settings that determine how the brushstroke will appear. But there's another, completely different way of creating brush-style artwork – by using Photoshop's filters.

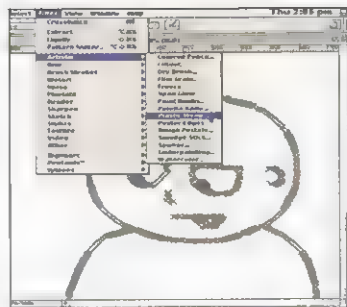
First of all make sure that you're working with an RGB file, as

CMYK files don't allow you to use all of the filters; if you need to finish up with a CMYK file you can always convert it later. Draw an object with a simple brush shape – something from the default sets. Now open the Filters menu, and take your pick from the options on offer; you'll see that they're organised according to type or use. Also note that different filters will behave in different ways according to the image to which they're applied; for example, does your layer have a white background, or is it transparent?

WOAH THERE!

Hold your horses – those filters can get ugly if you overdo them

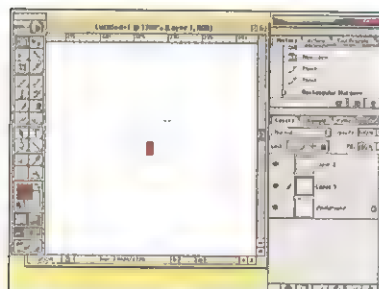
Photoshop filters are something of a bone of contention among designers and artists. If you've seen lots of digital artwork on the internet you'll know that there are quite a few people out there who are really overdoing the 'filter thing'. Used in moderation filters can certainly enhance artwork, but if you take things too far your lack of skill, imagination and an eye for aesthetics will become glaringly obvious. The best advice is to apply a filter carefully, and decide what it does or doesn't do for the work. Use the History palette to toggle between 'before and 'after' states, or, if you have CS, use the Filter Gallery to quickly try different filters.



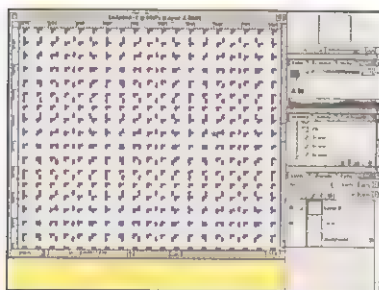
A simple drawing with the Cross Hatch filter applied. Feel free to mix and match filters, but don't overdo it

Shading with masks

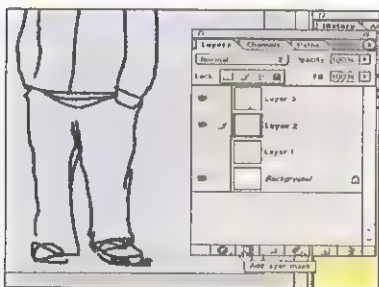
We've looked at a few painting techniques, but how about applying some subtle shading?



1 Choose a subject – something with plenty of hard shadows – and create a new file. Create two new empty layers for the shading. As we need to generate shading patterns first, zoom right into your canvas on one of the new layers and, using a 1-pixel pencil, draw a line two pixels high. Draw a rectangular Marquee around this, leaving plenty of space.



Turn off the visibility of the Background layer, go to **Edit > Define Pattern** and call it 'shade1'. Then hit **Select > Deselect**. Repeat the process in the second layer so you have two patterns saved. Erase the original graphics in each new layer to clear it before filling. In your first layer hit **Select > Deselect**, then **Edit > Fill > Use Pattern** and choose shade 1. Fill the other layer with shade 2.



3 You can turn the Background layer back on now, and zoom out if you like. For the moment, turn off both your new patterned layers and create a new one above them. Using a thin, hard brush (or a pencil) draw a rough outline of your subject. Then turn on and select the layer containing the darkest pattern, and [Alt]-click the Add a mask icon at the foot of the Layers palette.



The pattern will disappear, because it's masked out by the black mask, but you can paint the pattern back in using shades of grey. Select your greys using the Grayscale slider in the Color palette; white will give the strongest pattern, and black none at all. Remember you need to have the mask thumbnail highlighted in the layer when you paint, not the original pattern thumbnail.



Cross-hatching

You can use the technique shown here to produce a cross-hatching style of shading. Make sure that one of your patterns creates a diagonal striping effect running 'uphill' and that the other fills the layer with 'downhill' stripes. If you keep the stripes widely spaced in the pattern, you'll find that the shading will look quite natural, as if pencilled in.



Flexibility

As well as enabling you to change the opacity of your shading (by picking various shades of grey) and choosing between as many patterned layers as you care to use, don't forget that you can still set up the brush as normal. This means you can use any brush type to create the mask – just make sure that you keep the Mode set to Normal in the options bar. The mixture of textured brushes with patterns should produce some interesting results.

PENCIL TOOL DRAWING TECHNIQUES

We've only looked at a few uses for the Pencil Tool so far, but this chapter should prove that it's not simply a variant of the Brush Tool, but an extremely useful tool in its own right

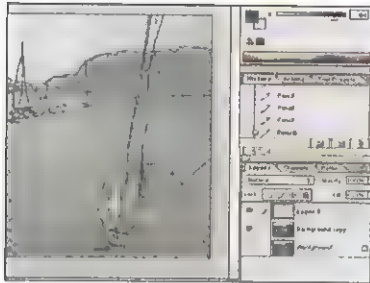
You might be thinking that you know just about all there is to know about the Brush Tool at this point. We've looked at the various interfaces and menus, and explored all the settings and controls and seen how they can be applied in a variety of ways. There is more, however; for example we haven't even touched on the subject of photo-manipulation yet – we'll get to that in Chapter 8. For now though, it's time to take a break from the Brush, and spend some time with the closely related Pencil Tool.

Although the Brush Tool can be easily be configured to behave like a pencil, it's useful to have the Pencil

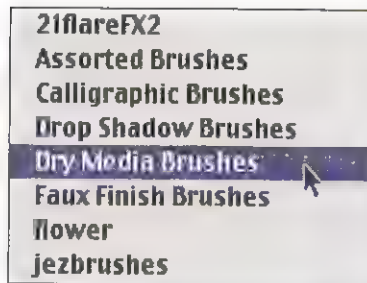
Tool at our fingertips for light, delicate work. For example, if you know that you need a 1-pixel painting tool it's quicker to select a pencil which has already been set up in this way, rather than have to reset the Brush Tool, and then change it back when you need to do brushing work again. If nothing else, the accessibility of the Pencil Tool will make it extremely useful in your everyday work.

The lighter touch

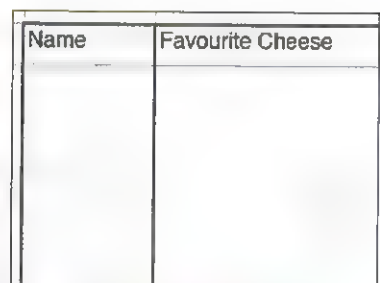
We can turn to the Pencil Tool for a surprising variety of jobs. The fine nature of the tool means that it's perfect for 'mark making' without



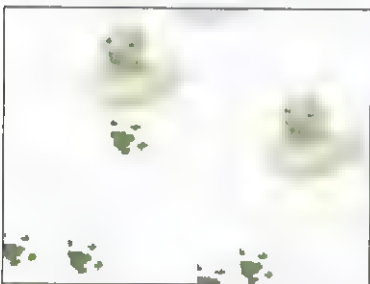
Page 60 Use original photographs to trace realistic images using the Pencil



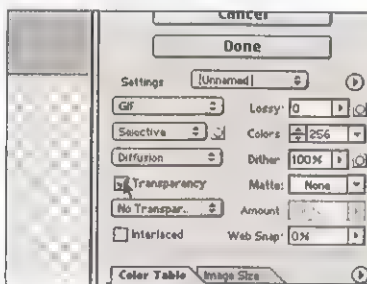
Page 61 Try out the pencil-effect brushes supplied with Photoshop



Page 62 Create tables using guides to lay out and the Pencil to draw in lines



Page 63 Learn the difference between anti-aliased and aliased images



Page 68 Create web graphics, and save them using the correct settings



Page 69 Use the Pencil Tool to fix glitches and stray pixels in your images

making big, permanent changes to an image. To take an example, you might be planning a complex job and would like to sketch out a rough composition first. You could create a layout layer and just sketch into that; you can then add to this layer as new ideas occur to you throughout the project, but because the drawing is unobtrusive you won't need to worry about it overwhelming the rest of the image.

Of course, the Pencil also stands out as a drawing tool in its own right. Most interestingly, as we'll discover, any brush preset which is applied to the Pencil Tool is not anti-aliased (see page 63 for more

on this), and is rendered in only the foreground colour; this makes for a very strong, sharp stroke.

Pixel perfect

As the Pencil Tool can be applied so delicately it lends itself to its own sub-genre of web artwork. You may have come across such artwork before – images that are literally created pixel-by-pixel. It may sound like a time-consuming and frustrating process, but the Pencil Tool makes it that much easier, and the results can be impressive once you get the hang of it. So reach for the Pencil Tool, and let's get on with some drawing...

Tracing from photos

Create a realistic drawing from a photograph with the help of Photoshop layers



The origin of art

In Victor Stoichita's A Short History of the Shadow he makes the point that Pliny the Elder, the famed historian of 1st Century Ancient Rome, wrote: "All agree that [the origin of the art of painting] began with tracing an outline around a man's shadow." So, when we trace in Photoshop we're just using modern tools to follow an ancient trend!

Before we go any further, let's get one thing straight: tracing is absolutely not cheating. Many digital artists specialise in creating 'photorealistic' artwork, and the only difference between someone who draws from a picture and someone who traces it is that one of them has good eye-to-hand co-ordination, while the other saves time by copying from the original.

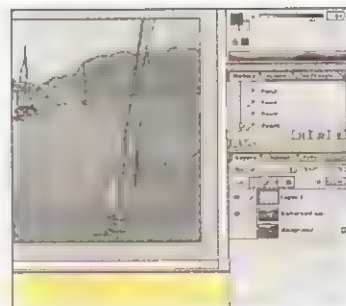
Of course there are a great many skills involved in life-drawing which can be learned and developed over time, but if you're simply going for a

'recording' of a shape and you have a photograph of the subject to work from, then tracing it can save you a great deal of time. And, if you would like to accurately draw a scene but you don't have a photo to work from, it would probably still be quicker to take a picture with a digital camera, import it into Photoshop and start from there. The end result will be no less 'worthy' if you've had a helping hand from Photoshop – and the people that are going to see the finished product won't know any better, will they?

TRACING, NOT CHEATING

Here's how to simply trace an image in Photoshop

If you have a photo to work from, open it in Photoshop and duplicate it into a new layer (right-click (PC) or [Control]-click (Mac) on the Background layer). Turn off the background layer's visibility and reduce the opacity of your duplicate layer, and you'll have a faint guideline to work from. Create a new layer at the top of the stack and use the Pencil Tool to trace the outlines and distinctive shapes. You may find that your lines get lost against the photo; if this happens, use a brighter colour, and when you finish tracing go to Image > Adjustments and choose Hue/Saturation, Brightness and Contrast or a similar recolouring control.

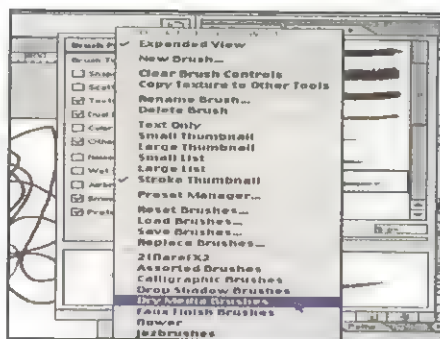


Even fairly rough outlines will appear quite realistic and well-drawn when traced from a photo

Pencil presets

Several of the brushes found in Photoshop's libraries simulate the effects of various pencils

Select the Brush Tool, and, in the Brushes palette, replace your current brushes with the Dry Media Brushes set. Select the brush called '#2 pencil' and try it out on your canvas. Then select the Pencil Tool and choose the same preset; draw on the canvas and you'll notice that it doesn't react in the same way – in fact it doesn't draw at all. Some brush presets won't work in the same way when used with the Pencil Tool as when they're used with the Brush Tool. As you probably won't use these brush presets on a regular basis



Load up the Dry Media Brushes from the Brushes palette menu for a set that contains many varied and useful pencil effects

don't worry too much; just load and use them with the Brush Tool as and when you need them.



Custom pencils

Don't forget that you can customise any of these preset brushes and save them as your own. So, what do you need to consider when creating customised 'pencil' effects? Try out a few real pencils on paper, and note how pencils of different hardnesses draw differently; a 2B is darker than a 2H. A blunt pencil also draws differently to a sharp one.

PENCIL-STYLE BRUSHES

#2 Pencil – a good starting point for a fine, delicate pencil effect.

Wax Pencil – this is akin to using a fat-tipped wax on paper, and includes some of the texture found in rougher paper surfaces.

4H Hard Pencil – similar to the #2 Pencil, but also blends in another texture using a Dual Brush setting



Charcoal Pencil – applies a grid-shaped texture to create a charcoal-type effect; dark and fatter than the other pencil options.

Conte Pencil – this is another relatively fat pencil. Its Texture and Dual Brush settings combine to build up a strong stroke.

Graphite Pencil – a dark, deliberate pencil for strong outlines. It uses almost every Brushes palette control, so it's a little slow to draw with.

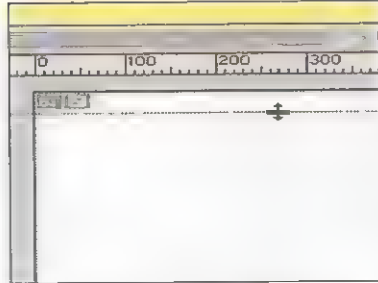
Creating tables

If you need to draw tables in Photoshop the Pencil Tool offers a neat, simple solution

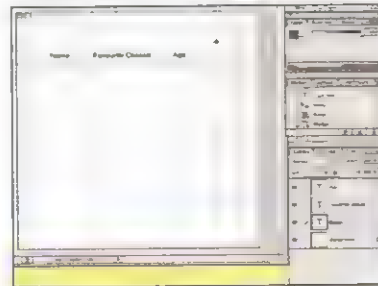


Aligned text

If your column headings are made up of different type layers they probably won't be aligned in a straight line. You can use the guides again to do this job. Simply create a new guide and drag each piece of text over until it snaps to the line. Once they're aligned in a row, you can drag the guide back to the ruler to get rid of it.



Create a new file, and open the View menu and make sure that Rulers is ticked. In the same menu make sure that Snap is also ticked, Snap To is set to Guides and Guides is ticked in the Show sub-menu. Back on the canvas click on the horizontal ruler, and drag down to 'pull out' a guide. You can now slide this up and down to reposition it.

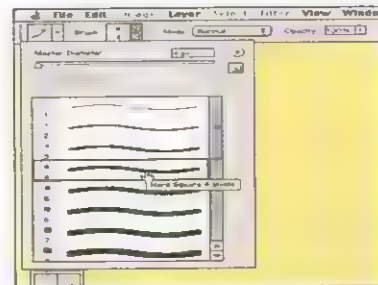


Create a vertical guide in the same way, and keep adding horizontal and vertical guides until you've drawn a table consisting of three columns, with boxes at the top for your column headings. Use the Horizontal Type Tool to add the headings; if the fields aren't big enough reposition the guides so that everything fits neatly.

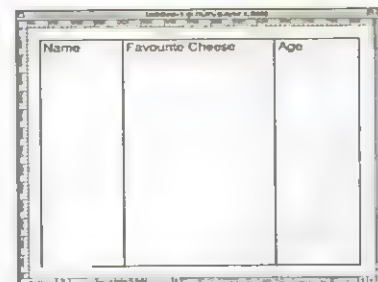


Exact measurements

There are two ways of drawing your table to exact measurements. First of all, select View > New Guide. Then, in the pop-up, tick Horizontal or Vertical, and enter the amount in the field followed by cm, mm or px. Alternatively, pull the guides from the rulers as shown in the walkthrough, and watch the Info palette as you do so; it will display measurements for the guide.



As we're drawing a grid we're better off using a square brush – otherwise the corners and line ends will be rounded. Select the Pencil Tool and, in the Brushes palette, use the menu to replace the current library with Square Brushes. If you check in the Brush Preset Picker you'll see that most of these brushes are square-shaped, and of various sizes. Pick the 4-pixel square brush.



Hover your cursor near the top-left corner of your table, where the guides intersect. Hold down [Shift] and click and drag down to draw a straight line. You should find that the start point snaps to the intersection of your guides and then follows the grid, and it will also snap to the bottom edge if you stop drawing around there. Draw the rest of the table in this way.

Anti-aliased versus aliased

We hear a lot about things being 'anti-aliased' in Photoshop, but what, exactly, does this mean?

When an element appears in a layer and is surrounded by empty, transparent pixels (for example text on a photo) a jagged outline will be apparent where the pixels meet those on the lower layers unless anti-aliasing is applied. The process of anti-aliasing adds pixels of graduated transparency around the object's edges to create a smooth outline where the pixels on different layers meet. When you make a selection from an image or set controls for a tool in Photoshop you'll often see an Anti-aliased

checkbox in the options menu – tick it to create this smooth edge.

So how does anti-aliasing apply to the Brush and Pencil tools? Well, if you use a brush preset with the Brush Tool, it's anti-aliased where you would expect. A soft-edged brush will display obvious anti-aliasing, and, while a hard-edged brush might look 'crisp', if you zoom right in you'll see that the stroke has some anti-aliasing too. If you apply the same presets to the Pencil Tool and zoom in, you'll see that no anti-aliasing is applied.



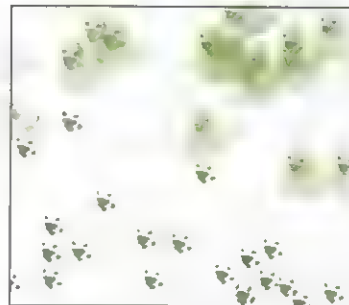
Removing anti-aliasing

If you've created a selection with anti-aliasing applied and then paste it on to another background, you'll notice that the aliasing is based on the previous background, and may look out of place in the new location. The obvious decision is to untick Anti-aliasing when making the selection, but, if you've already pasted it, click on Layer > Matte > Defringe.

QUACK QUACK

Yes, ducks can help show us how the Pencil and Brush tools differ

First, load up a new library of brushes – we're after the Special Effects Brushes. Then select the Brush Tool and scroll through the Brush Presets; around the middle you'll find Ducks Not In A Row. Try it out on the canvas – cute eh? You'll notice that the ducks are rendered in various shades of your foreground colour, with anti-aliasing used to produce the different shades. Now select the Pencil Tool, and the same Ducks preset, and draw again; because the anti-aliasing isn't supported, the brush just paints the foreground colour for the dark areas of detail and nothing for the light areas, so it only draws the eyes and beaks.



The Ducks Not In A Row brush applied with the Brush Tool and the Pencil, which only draws the eyes and beaks

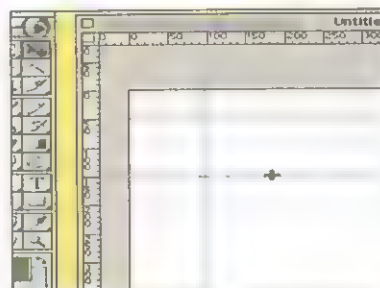
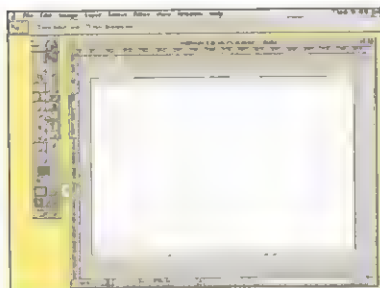
Planning layouts

You can share a rough sketch or layout by exporting it to a printable or emailable format



Illustrative sketches

This kind of sketching can give a strong impression of a design or layout. If you use a file with the same dimensions as your proposed output (for example 800x600 for viewers that typically use low-res monitors) then the client or test audience can try this in their web browser to see how it will look online. All they need to do is select **File > Open** in their browser application, and select the JPEG image.



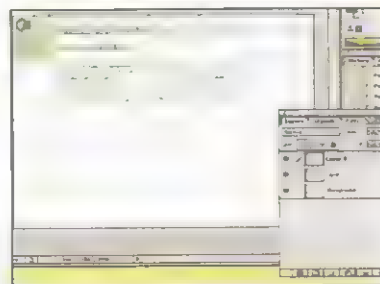
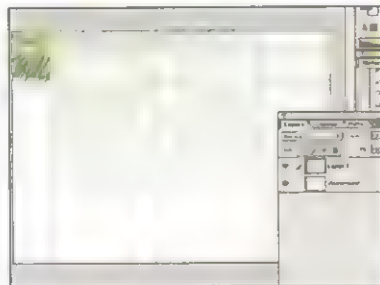
Let's assume that you're designing a web page. You can draw a rough sketch in Photoshop, then email it direct to your client. Start with a file that's 800 pixels wide by 600 pixels high, to simulate the size of a web browser window as seen by users with low-resolution monitors.

If you feel more comfortable working with guides, make sure **Rulers** is ticked in the **View** menu. Then click on the rulers and drag guides into the middle of the canvas. You can encourage your drawing to follow these guides by ticking **Snap** and making sure **Snap To** is set to **Guides**.



Variations on a theme

When you save your file, click on **File > Save As** and select **JPEG**. Make sure that **Layers** isn't ticked in the **Save As** window. Also note that only 'visible' layers will be included in the image. This is useful if you want to try three or four different foreground layouts based on the original background shapes or colours; simply turn off the last layer you were working on and start again in a new layer, then export the image repeatedly with different foregrounds.

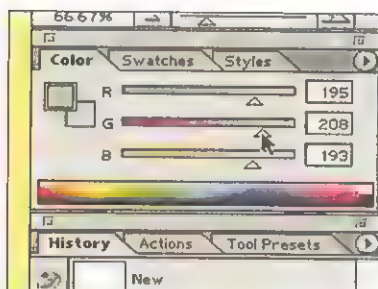


Select a pencil with a fine, round tip of around 2 pixels. This will show up okay in the image without appearing too strong. If you have a graphics tablet this is a good time to use it, as we'll be mostly drawing freehand forms. Create a new layer, and shade in some areas where you think blocks of background colour might appear.

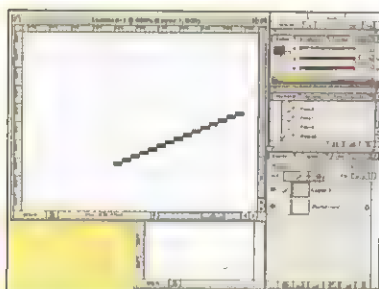
In another new layer add more detail over the background; remember, hold down **[Shift]** to draw straight lines. If you feel the background shapes are too strong, reduce the opacity of that layer as a whole. Keep adding layers of detail, but remember that this is just a sketch. When you're done go to **File > Save As**, and select **JPEG** to create a small, email-friendly image file.

Isometric pixel art

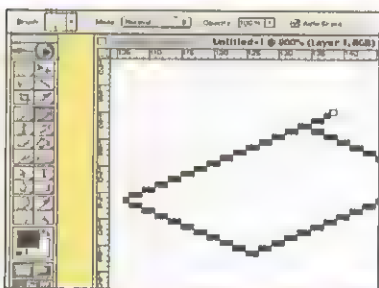
Pixel art was once the only art you could create on computers – now it's a whole genre in itself



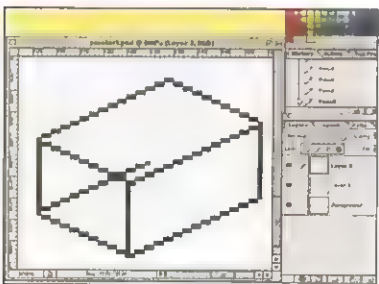
To start with, let's pick some colours. Be careful, as very 'neon' colours will glare; such colours are usually produced when two RGB sliders are high and the third is low. Use the RGB sliders in the Color palette (select this option from the palette menu) to create a palette of colours to work with; bear in mind we'll be drawing a house.



Create a 100x100 pixel file and zoom in to 800%. Go to Window > Documents > New Window to open the file in a new window, and zoom it to 100%; this shows the image developing in 'real size'. Select a 1-pixel pencil. You may have seen drawings in isometric view; they work on a ratio of 2:1. In a new layer, draw an 'uphill' line to form the bottom edge of your building.



Draw a rectangular isometric shape to form the base of your house; remember, two pixels along for every one up. In the options bar, tick Auto Erase. Also make sure the background colour is the same as the Background layer – then if you slip with the pencil you can erase stray pixels simply by clicking on them.



Duplicate the layer, select the Move Tool and select the new layer. Using the arrow keys, move the rectangle up the canvas so it forms the top edge of the house. In this same layer, draw vertical lines to connect the top and bottom corners. Now that you can see where edges will be hidden, erase the far edges of the 'bottom' layer. Go to Layer > Merge Down to join the two drawn layers. »



Pesky white pixels

If you use the Auto Erase function of the Pencil Tool to erase unwanted pixels be careful, because rather than erasing pixels it actually just paints the background colour over them. If you build your pixel art up in layers, you'll start seeing annoying white pixels cropping up. The best way to make sure this doesn't happen is to use the Eraser Tool (set to Block mode) to erase pixels instead.



Cutting corners

You'll soon notice that drawing pixel-by-pixel takes time, so start looking for shortcuts. If you have two lines making a corner, duplicate the layer, then Edit > Transform > Rotate 180 and you'll have the other corner, to create a rectangle; if a line runs in one direction go to Edit > Transform then Flip Horizontal or Vertical to turn it around. Also make selections using the Lasso Tool (with Anti-aliased off), then copy and paste – this is a quick way of doubling the length of a line.

Isometric pixel art – outlines continued



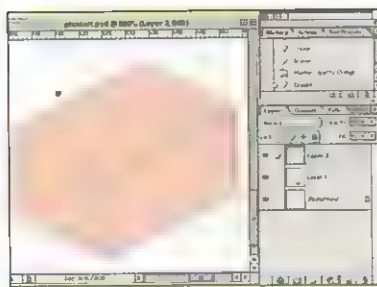
Web pixels

As pixel artwork is basically aimed for web distribution, there's a huge network of artists, websites, tutorials and communities out there. Just type 'pixel art' into Google and see what you can find, and add 'tutorials' to find plenty of people who are more than happy to share their skills with you. Some of the best sites are www.habbohotel.com, www.protokid.com, and www.eboy.com.

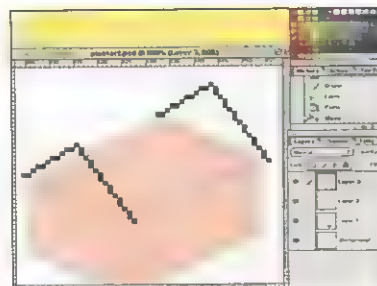


Understanding scale

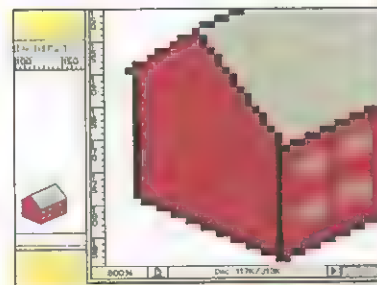
When drawing any object, always consider the scale of it in comparison to its surroundings – a skyscraper is much taller than a tree, a car is smaller than a garage. If you think in terms of pixels, people should be around one pixel wide and five pixels high.



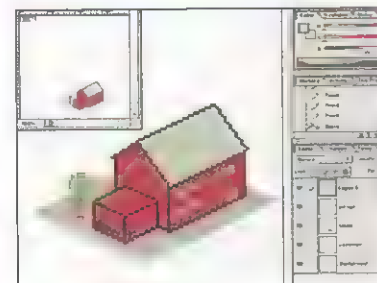
Select the Paint Bucket Tool, and set the foreground colour to a redish-brown brick colour. In the options bar, set Tolerance to 1, untick Anti-Aliased and tick Contiguous. Then click inside the outline to colour the shape. Next it's time to add the roof – and drawing an angled roof can prove tricky.



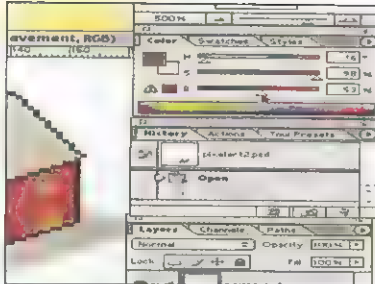
Reduce the opacity of your house and create a new layer. Find a point halfway along the near end, and move up until you find a starting point. Draw from this point towards the top corners of the house; these aren't isometrically horizontal or vertical, so you'll need to 'make up' a new line. One rule: always move the mouse up or across a pixel, or diagonally but never draw in an L-shape.



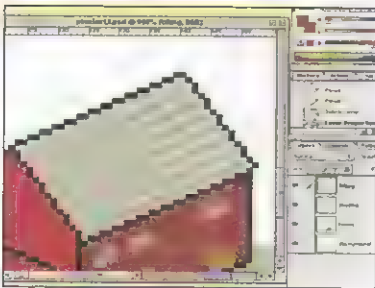
Connect up the rest of the roof and colour it. The roof may need adjusting; select the Move Tool and use the arrow keys to move it until it looks right in the 100% canvas as well as in your 'editing' one. Once it's in position, select Layer > Merge Down to merge the roof and house layer, and colour the end wall up to the roof. Add details such as windows and door on the front wall.



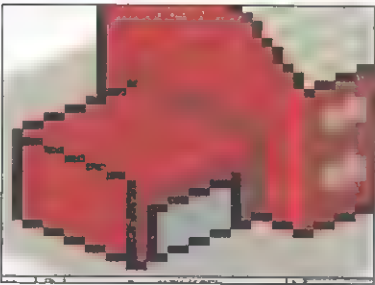
Finally add some extra elements. In a layer below the house create a dark 'tarmac' rectangle for the house to sit on. Then in a new layer above the house, draw in a garage that's smaller than the house in all dimensions. Remember that you can use the Lasso Tool to select and then copy and paste areas where they repeat, such as lines, edges, walls and corners.



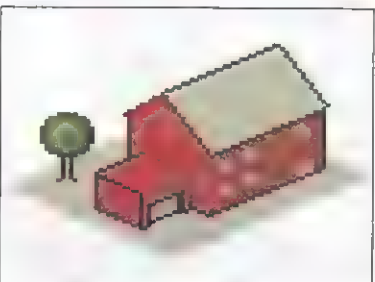
Open **pixelart.psd**. Click on **Window > Documents > New Window** so that you edit one copy at 600% and view the other at 100%. First we need to shade one side of our objects. Select the red you used to colour the house, and then set the Color palette menu to HSB Sliders. Make the colour a little darker by sliding the bottom B (Brightness) slider down.



Select the Paintbucket Tool, and set Tolerance to 1%. Untick Anti-aliased, tick Contiguous and tick Use All Layers. Then create a new layer and select it. Click on the right side (front) of the house to colour it in the new 'shading' layer. On the roof, draw a line of darker grey, and then copy and paste it to create the appearance of rows of tiles.



If you did lots of cutting and pasting, Layer > Merge Down the layers so you form a 'tiling' layer. Let's move on. We call 3D edges that stick out 'mountain edges' and those folding in 'valley edges'. As a rule, mountain edges are lighter than the object's main colour and valley edges are darker. Pick darker and lighter reds based on the brick red, and paint the edges accordingly.



Indent the garage door by changing the bottom edge to the 'pavement' grey and the right edge to dark red, and pulling the black outline in by 1 pixel. Now for the tree. Select the Elliptical Marquee, hold [Shift] and draw a circle. In a new layer, do Edit > Fill > Black, then Select > Modify > Contract and enter 1 pixel. Hit delete to create an outline. Colour it green, and add shading and a trunk.



Break it down

You'll find a **pixelart2.psd** in the Tutorial section on your CD. This shows each step of this walkthrough in a new layer, so you can follow the entire process. Turn each layer on and off to see how even the slightest changes affect the picture. You'll also find other examples of pixel artwork found on the web; enjoy them and be inspired!



Light and shade

We've discussed various rules of lighting, but they may not always apply. First of all, decide where your light is coming from. Then you can establish which side of an object will need to be dark (out of the light). Spherical objects such as the tree shown here will require different 'steps' of shading. To paint the shadow of the house on to the pavement, create the 'footprint' of the house in a layer beneath the house layer, then reposition it as necessary.

Creating icons

If you ever find yourself designing a website or creating symbols, reach for the Pencil Tool



Symbol books

There are plenty of design books dedicated to the study and recording of symbols; two particularly good ones are *How to Design Logos, Symbols and Icons* by Gregory Thomas and Earl Powell (How Design Books, ISBN: 1581804563) and *1,000 Symbols: What Shapes Mean in Art and Myth* by Rowena Shepherd and Rupert Shepherd (Thames & Hudson, ISBN: 0500283516).

Over the last few pages we've seen how the Pencil Tool can be used to create pixel art. It's a tricky business indeed, especially given that we're trying to illustrate a particular shape or object that should be recognisable, but while using the least amount of pixels. You'll have seen how useful it is to be able to view your file in the 100% window, as well as the one you're currently editing in (see page 65).

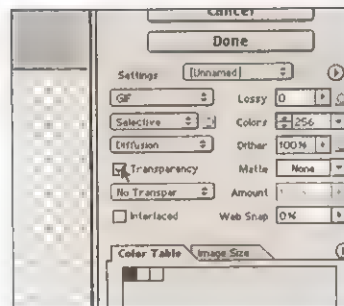
If you're designing some kind of symbol or icon then it should be easily recognisable, and immediately

call to mind what it's intended to represent – the design can be influenced by everyday objects. For example, if you're creating an image that will be used for an 'email me' link on a website you could in theory draw a postman, a stamp or a letterbox; however, as the internet has evolved people have come to associate certain symbols with certain things, and most people would these days associate the image of a sealed envelope with email, so this would probably be the most obvious design to go for.

CREATING WEB ICONS

Keep a few things in mind when creating icons for websites

If you're creating icons for a website it helps to be aware of the context. How big can they be? What's the background colour? If they'll be on a light background try a dark colour outline, and vice-versa. Another tip: make sure that you create each icon on a new layer in your Photoshop file, then turn off the background layer so the icon appears to be floating on transparency. Go to File > Save for Web and under Settings select GIF. Click the Transparency box, and you'll see the 'white' background replaced by 100% transparency in the Color Table. If you now put this GIF on a web page it will float on whatever background you've created.

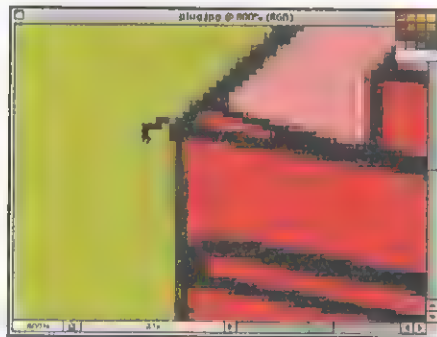


Tick Transparency if you're exporting GIFs via the Save for Web window, so the image 'floats' on the background

Pixel tweaking

What's that annoying little object lurking in your image? It's a stray pixel, so let's erase it

We've all been there – you're happily working on a piece of artwork when you spot something out of the corner of your eye. You zoom in and there it is: an unwanted line, or some other mark that you've inadvertently made using Photoshop. Just because you're using a digital tool, it doesn't mean you can't make mistakes, just as you would with 'real' art equipment – these things will happen. However, if a blemish is small don't attack it with a great big hefty brush – try using the Pencil Tool instead. If you don't trust



Rogue pixels like the black ones at this corner can be easily fixed using the Eyedropper and Pencil tools – just select a colour and draw

yourself you can always make your Pencil alterations in a new layer, and merge the layer down later.



More photos later

We'll be looking at photo manipulation and editing in the following chapter, but for now consider that the Pencil will often be very useful for fixing minor blemishes such as redeye in portraits, light glares reflecting off objects and dust on the camera lens.

PIXEL PUSHING

FIND THE PROBLEM AREA using the Zoom Tool. Remember, clicking zooms in, [Alt]-clicking (PC) or [Option]-clicking (Mac) zooms back out. If you have another tool selected you can zoom in using [Spacebar]+[Ctrl] (PC) or [Spacebar]+[Command] (Mac); again, hold down [Alt] at the same time to zoom out.

PICK THE CORRECT COLOUR from pixels surrounding the problem ones by [Alt]-clicking with the Pencil Tool. Use the HSB sliders in the Color palette to tweak the colour if necessary.

DRAW OVER PIXELS that need fixing using this colour. You may need to use other colours to help your 'correction' pixels blend into the image.

NAVIGATE TO OTHER areas of the image that may need fixing using the Navigator palette. The red square denotes the area you're zoomed in on, but you can drag this around the image for quick scrolling.



Watch yourself

The best tip for fixing stray pixels? Don't put them there in the first place! If you're doing lots of close-up work, using multiple layers and also using the Auto Erase setting on your Pencil, you'll need to watch what you're doing, or there'll be a few messy splatterings of pixels along the way. Of course, if you find it quicker to forge ahead and fix any problems later, that's fine.

ENHANCING AND EDITING PHOTOS USING BRUSHES

Seven chapters on Photoshop and we still haven't touched a photograph! We'll put that right now, as we look at how you can use brush-based tools to improve your snaps

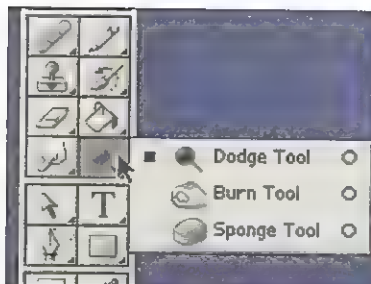
When Thomas and John Knoll developed Photoshop back in 1990, their intention was to provide a new way of working with photographs. This was inspired by Thomas's love for darkroom photography, so the pair had a real feel of what they were aiming for. Nowadays people use Photoshop for all kinds of work, but it's still most typically used to correct photos, so it makes sense to learn how to apply our brush skills in this area.

Chemical vs digital

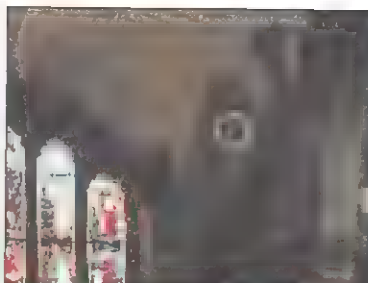
In the darkroom, a photograph is created by shining light through the negative on to photo-sensitive paper.

Then the chemical process colours the paper where the light has hit it, and colours it less where the negative has blocked out the light. The contrast in the photo (the range from dark to light shades) is controlled by placing different 'graded' papers between the negative and the photo paper.

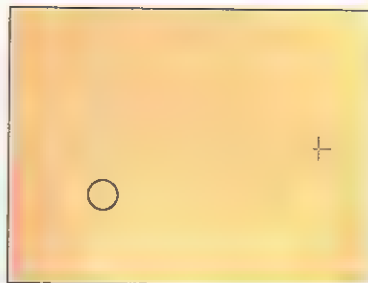
To achieve similar results in Photoshop we can apply a Contrast adjustment layer to an image or, better still, use a brush set to Overlay painting mode, which enables us to apply different levels of contrast to different areas of the image. Another darkroom process involves using cardboard cutouts



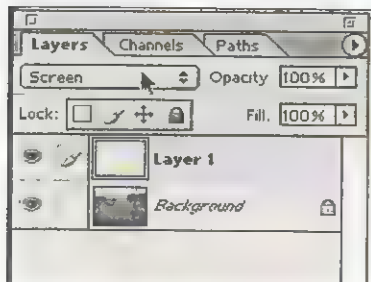
Page 72 Several brush-based tools can be used for editing photographs



Page 73 The Dodge and Burn tools lighten and darken parts of an image



Page 75 Patch up glitches in your images using custom-built tools



Page 76 See how you can apply changes to your photos in a new layer



Page 78 Learn how to tackle common problems in your photographs



Page 79 Create 'depth of field' in images with the Sharpen and Blur tools

(dodging) and frames (burning) to stop parts of the negative shining through on to the photo-paper. We can replicate this effect in Photoshop as well, using layers again or by calling on the specially designed Dodge and Burn tools.

In with the new

In comparing these techniques we can already see how Photoshop has one up on the traditional methods. Once you've applied light to photo-paper, the only way to correct a mistake is by starting again, and as you don't see the effects of your changes until the paper has gone through the chemicals, it usually

takes a few tries before you're successful. Photoshop makes things far easier; we can simply hit Undo, or use the History palette to step backwards through the process.

The Blur, Smudge, Sharpen and Eraser tools are good examples of brush-based tools that allow for simple and effective editing of your photos. In this chapter we'll also look at other tools and brush settings that aren't available to us in the darkroom, such as the ingenious Healing Brush Tool. By knowing when and how to use these tools effectively you'll be able to not only correct your photos, but enhance them beyond your expectations.

Brush-based tools for photos

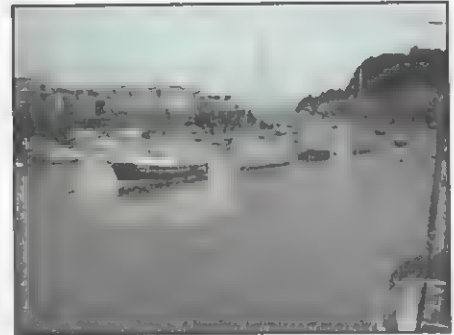


Digital is not 'best'

Don't be fooled into thinking that Photoshop can replace the chemical darkroom altogether – it's simply a different approach to photography. To start with, unless you have access to very powerful digital equipment, the print quality you get from a negative will always outshine a digital image. More importantly, in traditional photography the processing of images is as much a part of the art as the shoot itself.

There are a number of brushing tools that can be used on photos – let's take a look at them

We've looked in detail at the various ways of setting up brush presets for the Brush and Pencil tools, and these same presets can be applied to the various 'photographic' tools as well. So, for example, we can burn more exposure into an image using a spray paint-type brush, or smudge pixels using a hard-edged, square preset. You won't necessarily need the same level of flexibility as when you're creatively slapping your paint on to an empty canvas, especially as the tools are often used to do quite



The Dodge Tool replicates darkroom dodging techniques to alter exposure, but with more control and the safety of the Undo command

specific jobs; however, it's always good to know that you have the opportunity to experiment.

PHOTOGRAPHIC BRUSH TOOLS

Healing Brush – this is used to blend the texture from a sample area into a target area, while retaining the target area's colouring and luminosity (light and dark) values.

Clone Stamp – this works much like the Healing Brush, but enables you to copy and paste areas using a unique brushing technique.

Blur/Sharpen/Smudge – these three tools offer flexible controls for effects that really can't be found in the chemical darkroom at all.

Healing Brush Tool J
Patch Tool J

Clone Stamp Tool S
Pattern Stamp Tool S

Blur Tool R
Sharpen Tool R
Smudge Tool R



History Brush Tool Y
Art History Brush Y

Eraser Tool E
Background Eraser Tool E
Magic Eraser Tool E

Healing Brush Tool J
Patch Tool J
Color Replacement Tool J

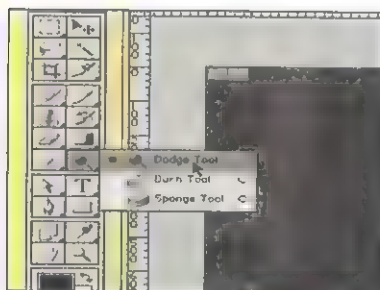
History Brush – this enables you to take steps backwards through your work by painting out parts of the altered photograph.

Eraser – these Eraser tools do much more than just 'rubbing out', enabling you to specify particular unwanted areas of an image.

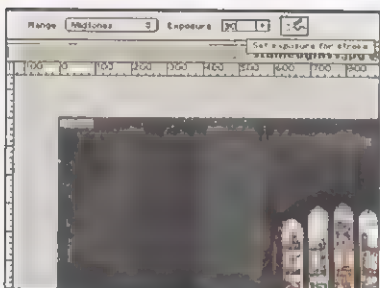
Dodge/Burn/Sponge – these are useful exposure and saturation controls, which can be applied to specific areas of images using a painting action.

The Dodge and Burn tools

Poor exposure is a common problem with photos, and these tools enable us to correct it



1 Open *stainedglass.jpg* from the CD. The window in this photo is clearly the focal point, but it would be nice to pick out some surrounding detail from the shadows. First, duplicate the Background layer and select the new layer to work with. Select the Dodge Tool from the toolbar, and choose a 60-pixel soft, round brush from the Brush Preset Picker.



2 You'll see that the Dodge Tool options are a little different to the Brush Tool options. First of all, you can choose whether to lighten Highlights, Midtones or Shadows in the Range field; it's best to work on the Midtones first, as this will do the job in most cases, so select Midtones. It's a good idea to start with a low Exposure setting; this is a little like the Brush Tool's Opacity setting.



3 Use the tool to paint in (dodge) any dark areas, notably the shadows around the window. Try to keep the mouse button pressed in one long stroke when painting over an area; if you use multiple crossing strokes the exposure builds up, and will be uneven across the photo. In some areas however (such as around the column) we do need to apply extra dodging.



4 Now burn the window centrepiece so it's slightly darker. Select the Burn Tool, and set it to Shadows with a 50% Exposure. Paint over the windows – you'll see the black areas darken – then burn the midtones with a 25% exposure. We've now darkened the shadows a lot and the midtones a little, but we've left the highlights unchanged – this increases the contrast.



Highlights and shadows

Dodging or burning on highlights and shadows should be applied in moderation. Use the tools in relation to the make-up of the target area; so, if a sky is a pathetic light blue, you can burn it in with Range set to Highlights. However, even if you're careful, dodging and burning can easily bleach out or 'grey over' your images.



Different strokes

Try setting up your brush differently, according to how you need to dodge or burn; with the Dodge or Burn tools selected you can still alter brush dynamics or behaviours as usual in the Brushes palette. Some settings may look a little different but they basically do the same thing; in the Other Dynamics panel you'll see Exposure Jitter instead of Opacity Jitter, in accordance with the settings in the options bar.

The Sponge Tool

Use this tool to adjust the strength of colours in different areas of your images



Black and white

Note that a 100% Desaturate setting doesn't immediately change an image to black and white. If you want to apply such an effect to the image as a whole, either select Image > Adjustments > Desaturate or add a Hue/Saturation adjustment layer to your photo and drop the Master Saturation to 0.

The tutorial on page 73 showed you how you can alter the luminosity of objects in your photos, but saturation is another matter entirely. Whereas luminosity relates to how light or dark a shade of a colour is, saturation is a measure of how much colour is in a shade (you can, for example have a dull, greyish red or brilliant, neon red). So if you know that some elements in a photo were more colourful when you took the picture, you can use the Sponge Tool to intensify, or saturate, the colour. You can also use the tool to



The car in this photograph has been saturated, while the background is desaturated; the result is that the car stands out more

'sponge out' colour, drawing it nearer to the 'grey' version; this process is known as desaturating.



Be creative

Although we generally use the Sponge Tool to correct saturation, or to slightly tweak colours to subtly lead the viewer, you can also exaggerate these changes for differing effects. Pushing colours around can lead to some very interesting results, often transforming a dull picture into a startling, creative piece – if you've seen the Stephen Spielberg film *Schindler's List* you may remember the impact created by the little girl in the red coat in the otherwise black and white film.

Sponge Tool Options

THE BRUSH can be set up as you like, using any preset type from the full range of libraries, but we'd suggest a soft-edged brush for general sponging and a hard-edged one for applying to particular objects.

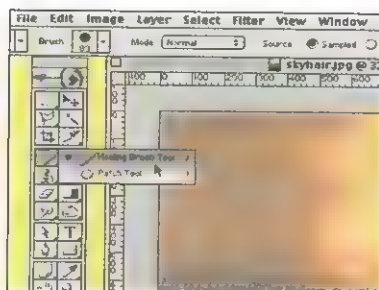
SATURATE colours by setting Mode to Saturate. Use the tool to liven up fading paintwork on cars, create richer sunsets, add colour to eyes or generally draw attention to specific elements in your photos.

DESATURATE colours by setting Mode to Desaturate. If colours glow too much and look 'neon', use this setting to tone them down. Intense skin tones, gaudy clothing or any overpoweringly bright colours will benefit from this treatment.

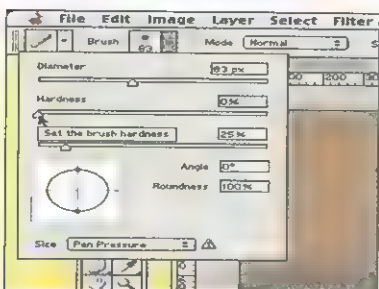
FLOW sets how strong the effect is, whether you're saturating or desaturating. As with the Dodge and Burn tools try a low setting first, and paint over the area several times to build up the effect.

The Healing Brush Tool

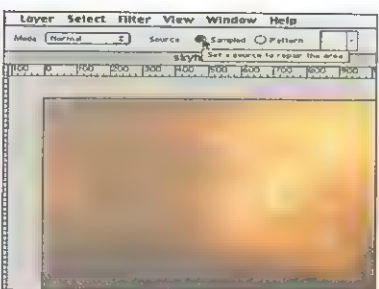
The Healing Brush Tool is great for fixing small blemishes that would otherwise spoil photos



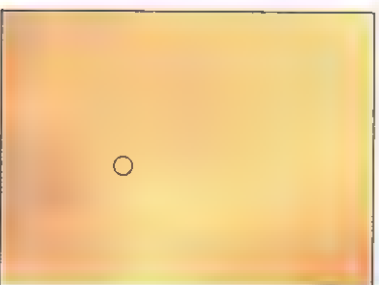
1 Open *skyhair.jpg* from the CD. At the top of the image you should see a mark caused by a hair or a speck of dust – this kind of thing often occurs if the camera lens is dirty, or if you scan a printed photo. Select the Healing Brush Tool – this blends a texture from one area into a damaged area, while retaining the brightness and colour values of the target area's pixels.



2 Unlike other brush tools you can't use the Brushes palette to set up the tool; all the controls you need are in the options bar. We're used to setting Diameter, Hardness and Spacing (keep it set to the default, 25%). We can also reshape the brush, but don't concern yourself with altering the Angle and Roundness settings unless the job really requires it.



3 The Mode determines how the tool acts. You can probably work out what the options do from their descriptions; we need to use the tool to heal, so select Normal. Set Source to Sampled so we can specify a texture 'sampled' from the image to be applied over the hair. Alternatively you can choose other patterns, which you can blend into your target area.



4 [Alt]-click (PC) or [Option]-click (Mac) on the area you want to sample. This should be a texture representative of the background behind your blemish; the hair lies on top of the cloud, so pick any cloud area. Then paint over the hair; you'll need to complete the stroke and then wait for the effect to render. Notice how the 'sampling' icon follows the stroke.



The Patch Tool

Healing can also be carried out using the Patch Tool, which is grouped with the Healing Brush in the toolbar. With Destination ticked, you select a sample area in the same way you'd use the Lasso Tool, then grab it by clicking in the middle and drag and drop it over your 'target' pixels. With Source ticked you select the target area first (which is probably easier in most cases) and drag it to the area you want to use for the patch.



The Color Replacement Tool

The Color Replacement Tool is new to Photoshop CS, and is also grouped with the Healing Brush. Select it and open an image of a car, or any object of predominantly one colour. In the options bar set Mode to Hue, Sampling to Once and Limits to Find Edges. Click and drag the tool over the car; it will recolour your car using your current foreground colour.

Painting versus layers

There are two ways of using the Brush Tool to correct photos – which should you use?



Opacity and Fill

Each layer has Opacity and Fill settings, and at first glance they seem to have the same effect, altering the transparency of the layer to reveal what's beneath. However, if you start applying effects to layers you'll notice the difference. Opacity affects the transparency of everything in the layer, while Fill just alters user-created pixels, and not those generated by the effect.

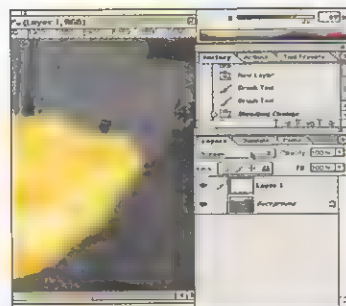
So far we've used brush-based tools such as the Healing Brush, Dodge, Burn and Sponge tools to correct photography, but the Brush Tool itself can be applied in various ways. You may remember that in Chapter 2 we looked at the Painting Mode setting in the options bar, which causes the brush to be applied so that it affects the pixels underneath in different ways; refer back to page 22 to reacquaint yourself with some of the options. Now that we're working with photographs you can probably see

how useful these settings will be, but be careful. Let's say that you paint a Screen mode brushstroke on to an image, in the image layer – you have limited options for undoing this later on. However, if you paint in a new layer above the original photo with the brush set to Normal mode, and then change the blending mode to Screen, you'll have created the same effect. This is a safer way of working, because the original layer isn't touched. This new layer can also be deleted, or toggled on and off for comparison.

WHICH WAY IS BEST?

As you've probably guessed, there's no right or wrong method

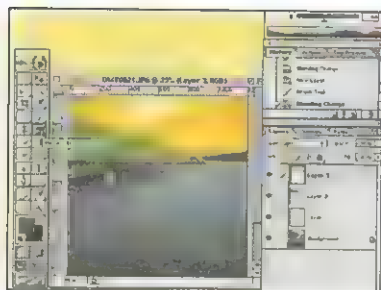
There are pros and cons to each of the two methods we've discussed. Painting directly on to an image is quicker, as you don't need to generate new layers. However, you do need to be pretty confident that you're making exactly the right changes with the brush. Is it set to the most suitable blending mode for the job? Have you got the right Brush, Opacity and Flow settings? Of course, if you use a blending layer instead you'll have less to worry about; the blending mode can be changed easily, which is great if you're still learning about how the different modes perform. At the end of the day, it's all a question of confidence.



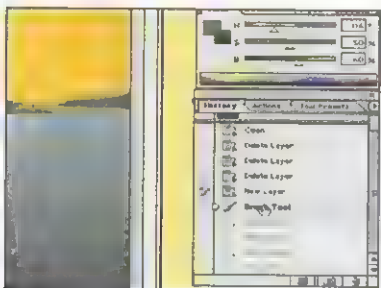
Use layer blending modes to make changes to your images, unless you're especially confident with brushes

The History Brush

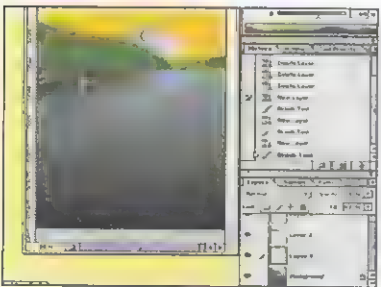
Need to restore pixels after making changes? The History Brush enables you to do just that



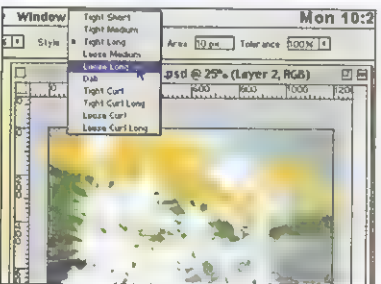
1 Open hills.jpg from the CD, and paint yellow over the sky in one layer, green over the foreground hills in another layer and a different green over the background hills in a third. Now, what if we want to undo the yellow sky, without losing the green on the hills that was applied after? Select the History Brush Tool; the usual brush preset options and settings are available.



2 In the History palette, identify the stage at which the yellow sky was added; if you can't remember where this was, try selecting various states until the yellow disappears. Click in the box next to the state just before the yellow was painted in; the box will display a History Brush icon, indicating that this is the state that will be revealed when you paint over the image.



3 With the box ticked, highlight the most recent stage in the History palette, so that you can see all the yellow and green again. Make sure that you have the layer containing the yellow selected, then paint over the sky with the History Brush; you should see the yellow disappear as you paint. Don't worry if you run over into the hills with the brush – they won't be affected.



4 You can also try out the Art History Brush. This works in the same way as the History Brush, but rather than using the usual brush presets you use one of a number of styles. Feel free to experiment, although this isn't a tool you need to be concerned about mastering at this stage.



History lesson

The History palette has three handy buttons at its base. The left button creates new documents from the current state, like choosing a state in the History and re-saving it as a Photoshop file; in the middle is the button for creating 'snapshots', which are like safe copies of the image based on the History state selected; and you can delete History states or snapshots by dragging them to the trashcan.



History menu

Like every palette the History palette has its own menu, with lots of useful options. Many of these are just shortcuts to functions you can access in another way, but in some cases you'll come across completely new options; if you click the arrowhead to bring up the menu you'll see the History Options, which can only be accessed from this menu.

Correcting common problems

Certain problems crop up all the time in photos, so it's worth knowing how to tackle them



Correction books

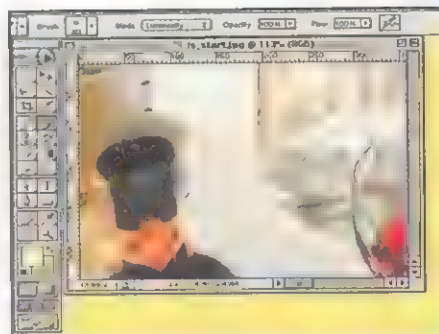
There are a wealth of Photoshop books out there, and many of them deal exclusively with photo correction and enhancement. Your best bet is to visit Amazon, and search for Photoshop along with other keywords such as photography, photographer and correction. Most large bookshops will have a decent selection of Photoshop books too.



Your aims

Be clear what you're trying to achieve before you start 'correcting' a photo. If you remember exactly how the scene looked when you took the photo, and would like to recreate this, then that's simple enough. However, in the same way that your camera 'interprets' the scene, your mind will do the same, so you may decide to alter the lighting or colouring altogether.

Photography has a magical habit of transporting you from the day that you captured that special moment to the day when you open a shadowy, overexposed image in Photoshop. Don't blame these discrepancies on the photo-fairies though; there's always a reason why they crop up. Most of the time, light will be the main offender: light glaring off shiny surfaces such as noses or cheeks; light reflecting off eyes to cause redeye; or light casting ugly shadows. The Brush Tool and its various Mode settings can be



You don't have to tolerate unsightly shadows in your photos – they can easily be rubbed out using the Luminosity painting mode

used to tackle these problems, even when other corrective brush-based tools we've looked at can't.

BRUSH MODES FOR PHOTO CORRECTION

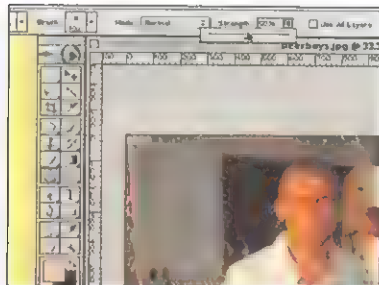
REDEYE IS CAUSED by the camera flash reflecting of the pupils of a subject's eyes. Use the HSB sliders in the Color palette to pick a suitable Hue for the eye colour, and set Saturation to less than 50%. Then paint over the red with a Color mode brush to apply the paint's hue and saturation values while retaining the luminosity of the eyes.

HARD SHADOWS will show up in your image as darker shades of a colour, not grey; for example a brown table in shadow appears dark brown. Use the Eyedropper Tool to select the desired shade, and, using a Luminosity mode brush, paint over the shadow; it will be lightened, but the hue and saturation will be unaffected.

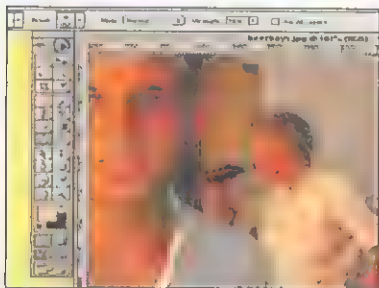
DARK AND LIGHT areas can be tweaked using Soft Light mode. If the painting colour is more than 50% brightness the photograph will be lightened; less than 50% and it'll be darkened. Set the colour to 0% saturation if you don't want to tint the image as well.

The Sharpen and Blur tools

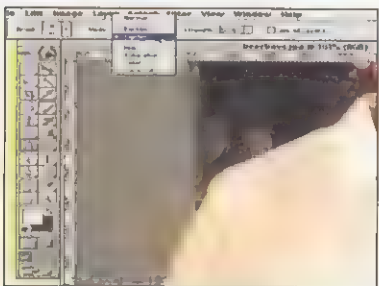
The Sharpen and Blur tools can be used to create the effect of depth of field in a photo



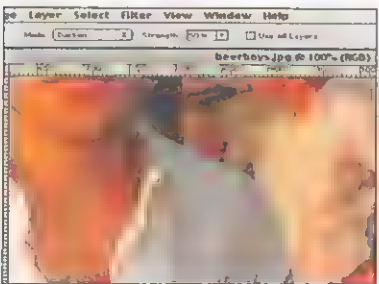
1 Open *beerboys.jpg*. You'll see that the main character is already 'jumping out' of the picture, but we can exaggerate this effect. Select the Blur Tool, which is grouped with the Sharpen and Smudge tools in the toolbar. Choose a large, soft-edged brush of around 100 pixels, and set Strength to 50% to start with so we don't end up blurring the image too much.



2 The idea is to paint over any elements that draw the viewer's eye away from the central figure. Here it's obviously the figure on the right, but also look out for 'sharp' shapes such as the door with its vertical lines, and the wall lamp. The tool decreases contrast between adjacent pixels, thereby softening and blurring edges.



3 Now to accentuate the central figure. First, use the Eyedropper Tool to sample a new foreground colour from the central figure's white shirt. Select the Sharpen Tool, and as before choose a soft-edged brush with Strength set to 50%. Finally, set Mode to Lighten, so that the tool will only sharpen pixels lighter than the foreground colour.



4 Paint around the edge of the left arm; you should see the shirt sharpen, but not the darker door. To sharpen the left arm, pick a new light colour from the other man's shirt and set Mode to Darken – this will only sharpen pixels darker than the foreground colour. Finally, paint using Normal mode all over the main character's features and other defining edges.



Build-up

Note that unlike other tools, the Blur and Sharpen tools 'build up' the strength of the effect in the same stroke; try painting in circles during one stroke and you'll see this. To make sure you don't accidentally over-sharpen or over-blur keep the Strength setting low, and try to keep track of where you've painted; if you're using the tools correctly, to affect edges, this shouldn't be too difficult.



Smudge Tool

The Smudge Tool is applied in the same way as the Sharpen and Blur tools, but the effect is different. Firstly, the Mode settings work differently; Normal smudges all colours, Darken pushes darker colours into lighter ones and Lighten does the opposite. If you tick the Finger Painting option the tool starts smudging with the foreground colour; otherwise it uses the colour under the cursor at the start of the stroke.

Chapter 9

EDITING YOUR PHOTOGRAPHS CREATIVELY

Photo editing isn't always about correcting lighting or getting rid of redeye – we can have a lot of fun using Photoshop's brush-based tools to create more unusual artwork

This chapter shows you how to put your boss's head on a photo of a donkey. Just kidding! We will in fact be trying to steer clear of some of the tackier uses people find for Photoshop – it really can be an insult to the application. Having said that, some of the techniques in the next few pages lend themselves to fun projects, while others are better suited to more 'serious' work; we'll leave it to you to decide which way you want to go!

Creating the unreal

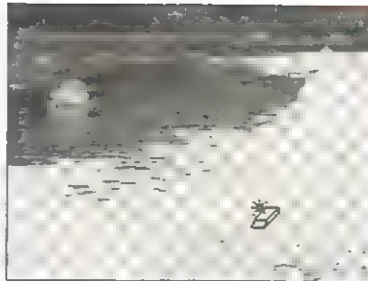
Photography is often described as 'painting with light'. It's seen as one of the most pure forms of capturing

an object or scene, or of conveying an atmosphere. In the last chapter we concerned ourselves with using Photoshop's brush tools and effects to help record this reality, by making the photo look exactly like the original scene, or correcting it so that it looks 'right' in the eyes of the viewer. However, once you step beyond the confines of reality, and start thinking more creatively about what you can do, there's no end to the fun you can have.

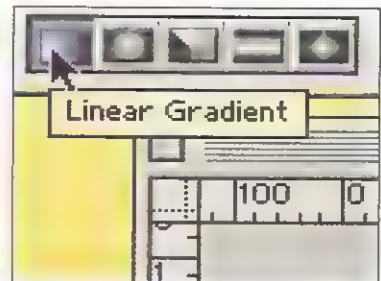
There are lots of tricks involving brushes and photographs that we haven't showed you yet. However, we can only cover so much in these pages, so it will be up to you to take



Page 82 Use the Clone Stamp Tool to paint in objects from other photos



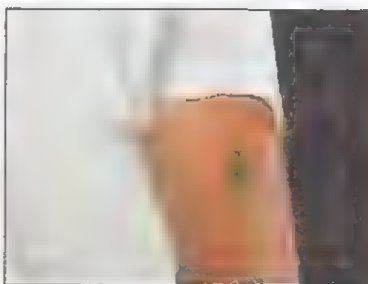
Page 83 Erasers can intelligently select which pixels to remove from an image



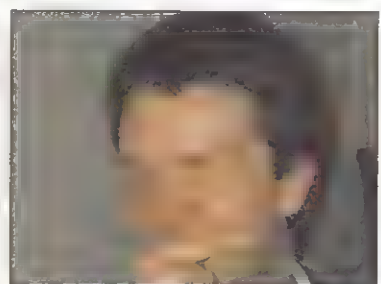
Page 84 The Paint Bucket and Gradient tools are great for quick colouring



Page 85 Combine adjustment layers and brushwork to create stylish effects



Page 86 Give a friend a realistic tattoo, without giving them the needle...



Page 87 You can also perform rather more drastic cosmetic alterations

what you learn here and apply the principles, if not the exact same methods, to your own projects. For example, we'll show you how to paint a tattoo on someone's arm; the same techniques can be used to cover skin blemishes and more obvious disfigurements. Taking things further, we'll show you how to composite elements from different photos; it's all about pushing the limits of believability – and sometimes exceeding them.

Advanced tools

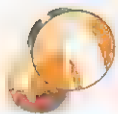
We'll also be taking a look at more advanced versions of some of the tools and techniques that we've

covered in earlier chapters of this Focus Guide; as these features are usually employed in more 'creative' Photoshop projects they slot rather neatly into this section.

We've worked with the Eraser Tool before for instance, but the Magic Eraser and Background Eraser tools take the concept a little further, enabling you to make some complex selections. We also touched briefly on the subject of masks when we looked at shading a painting back in Chapter 6, and in this chapter we'll be seeing how masks can be used to restrict the effects of an adjustment layer to particular areas of an image.

The Clone Stamp Tool

The Clone Stamp Tool enables you to paint elements from one image into another



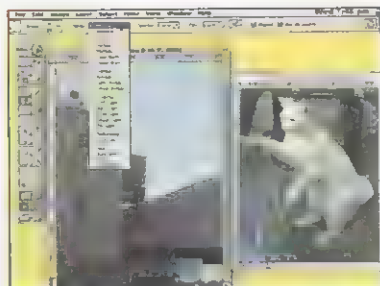
Lighting

Even if you follow the tutorial on this page exactly, you'll notice that the cat still doesn't look quite in place, and not just because of its size! We're talking lighting here; the foundry picture doesn't seem to be lit from any particular direction, but the cat is obviously lit from the top, with shadows on the underside of its legs and body. Consider which brush mode you'd use to paint over the cat to correct the lighting.

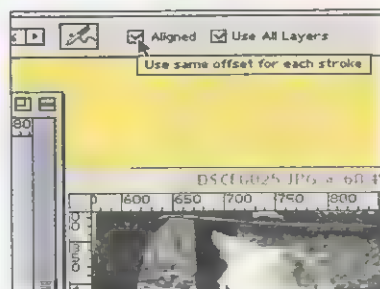


Cloning to remove items

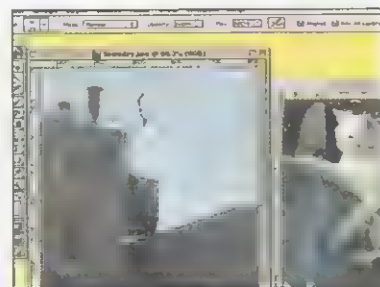
As well as using the Clone Stamp to add new elements to an image, you can also use it to remove unwanted ones. If your object is on a large enough expanse of 'surface', you can sample from that surface and paint over the object, for example a book on a desk or a mark on a wall. Also keep in mind that you can sample within an image, or from one photo to another.



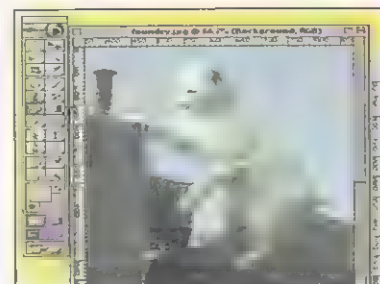
- 1 Open cat.jpg and foundry.jpg from the CD, and arrange the files so they sit side by side. Create a new layer in foundry.jpg, and select the Clone Stamp Tool from the toolbar – its icon is a rubber stamp. Choose a soft-edged brush of around 20 pixels, and set Mode to Normal.



- 2 Set Opacity and Flow to 100%, as we're not blending in the new object but placing it on top. Use All Layers can be ticked or unticked; it doesn't apply here, but for future reference this enables you to sample from all layers as if they were flattened, rather than just from pixels in the currently selected layer. Tick Aligned so the sampling point stays relative to the painting point.



- 3 Now to clone our cat! Select the canvas with the cat, and find a point that will be the first painting point to appear in the foundry image – your best bet is probably the left paw. [Alt]-click (PC) or [Option]-click (Mac) on the paw, then select the foundry canvas. Select the new, empty layer and start painting (cloning) on to the tall roof, carefully tracing the outline of the cat.

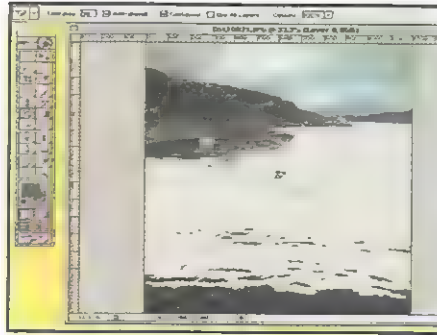


- 4 Choose a larger brush and go back to the foundry image to fill in the rest of the cat. Notice that because you've ticked Aligned, the tool starts sampling from the right place when you continue painting; otherwise each new stroke would start sampling from the original sample point until you [Alt/Option]-clicked to set another. Finally, erase any untidy background areas.

Advanced erasers

If you're after a helping hand with your erasing, reach for the Background and Magic erasers

We've already encountered the Eraser Tool, but what about the two variants grouped with it in the toolbar? The Background Eraser is particularly useful if you only need to erase specific pixels from a photograph. If you want to erase a particular block of solid colour such as a background sky or wall (hence the tool's name) then the tool will remove all the pixels within your Tolerance (range of colour) setting. This is all done with a brushing motion, and if that doesn't impress you, then the Magic



You can use the Magic Eraser to instantly delete whole blocks of a similar colour, such as the water in this photograph

Eraser certainly will – one click is all you need to instantly delete whole blocks of particular colour.

Background brush

Notice that the options bar brush settings for the Background Eraser's brush are limited. You don't need to worry too much about the shape of the brush, which is why you're only given Diameter, Hardness, Spacing, Roundness and Angle controls (isn't that enough?). If you've used the Healing Brush you'll notice that the Background Eraser has the same brush controls.

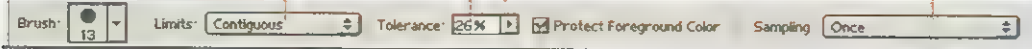
BACKGROUND AND MAGIC ERASER OPTIONS

Limits – Discontiguous erases all pixels within the Tolerance range; Contiguous only erases adjacent selected pixels; Find Edges preserves high-contrast edges.

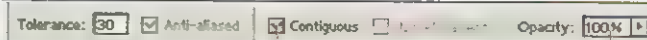
Tolerance – Sets the range of the selected colour that will be erased, using the sampled point as a reference.

Sampling – Continuous samples throughout your stroke; Once samples once at the start of the stroke; Background Swatch erases pixels matching the background colour.

Background Eraser



Magic Eraser



Contiguous – Untick Contiguous for the tool to erase all pixels in the tolerance range, regardless of whether they're touching each other.

Opacity – If you don't want to entirely erase the pixels you can set a transparency level for the affected areas.

Protect Foreground Color – Stops that colour being erased. [Alt]-click to choose a new colour while erasing.

Paint Bucket and Gradient tools

The Paint Bucket and Gradient tools go hand-in-hand with other brush tools



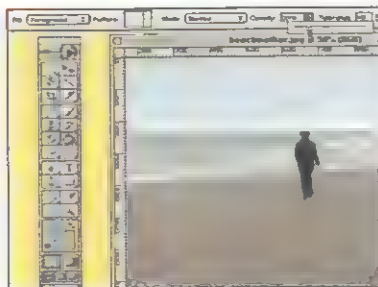
Quick paint

Before reading this page you might have taken a different approach to painting in a block of colour. You might have selected your area using the Magic Wand Tool or maybe one of the Lasso tools, then used a brush or just hit **Edit > Fill** to fill the selected area. Although the Magic Wand uses exactly the same method to select an area of like pixels, the Paint Bucket Tool is quicker, as it only involves one click.

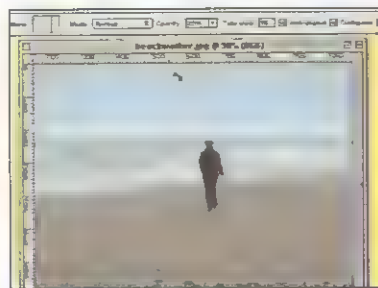


Other modes for gradients

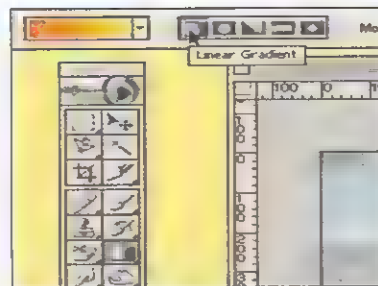
Consider using other modes to paint with, especially noting the last few from the list. Hue applies the hue values of colours only; Saturation just applies the saturation; Luminosity applies the brightness values from the two colours used. So, by using high or low values for your foreground and background colours, you can darken, desaturate or recolour an image using a gradient.



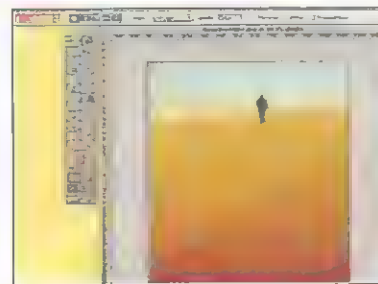
1 Open *beachwalker.jpg* from the CD. The sky is a little grey, so let's add some colour. Use the Eyedropper Tool to sample a colour from the sky, then use the HSB sliders in the Color palette to increase the Saturation and create a richer blue. Select the Paint Bucket Tool, and in the options bar, set Fill to Foreground and Mode to Normal. Set Opacity to 20%, so we don't create a flat blue sky.



2 Set Tolerance to 35; this setting should safely select and paint over all the sky shades without affecting the beach, woman or sea. Keep Anti-aliased ticked, and also tick Contiguous so that only adjacent pixels are painted. Click the tool once near the top of the sky; you should find that just the sky is lightly painted with your blue, allowing detail to show through.



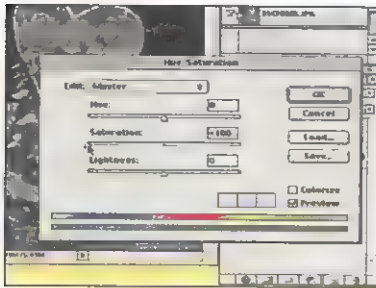
3 Now let's add some surreal, warm lighting with the Gradient Tool. Choose two colours: a deep, very saturated orange as the foreground colour and an equally saturated yellow as the background colour. Select the Gradient Tool, and in the options bar select Foreground to Background selected from the Gradient picker. Select Linear Gradient from the five gradient types.



4 Set Mode to Soft Light; this creates a subtle effect, but you could equally go with something much more dramatic, such as Color Burn. Set Opacity to 100% and leave the other boxes unticked. Click and drag a line from the bottom of the image to the top; this denotes the direction of the gradient. On releasing the mouse button you'll see the gradient applied to the image.

Brushes and layers

Combine adjustment layers and brushes to apply effects to specific parts of an image



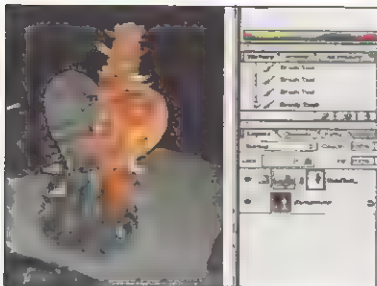
1 Adjustment layers can be used to make non-destructive alterations to your images. Open *cake.jpg* from the CD. At the foot of the Layers palette you'll see a row of buttons; click on the fourth from the left to create a new adjustment layer, and select Hue/Saturation from the list. In the pop-up, drag the Saturation slider to 0 and hit OK – the image will become black and white.



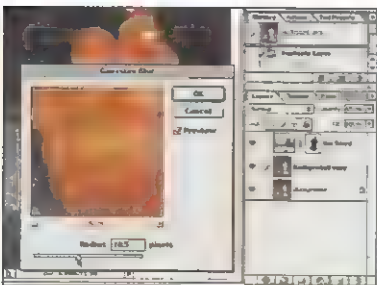
Grouping layers

You can group layers together easily – this is useful if you want to only apply an adjustment to one layer and not others. Hold down the [Alt]/[Option] and hover the mouse in between two layers until you see a linking icon, then click; to ungroup them do the same.

You can turn off a whole group of layers by toggling the bottom layer in a group; turn off layers within groups by toggling them as usual.



2 Note the adjustment layer thumbnail in the Layers palette; it's currently all white, meaning all the image is affected. We can mask out the effect in some areas with a brush. Choose a soft-edged brush, and in the Color palette, select Grayscale Sliders. Choose 100% black. Select the adjustment layer, and paint over the cake so it's unaffected by the Hue/Saturation adjustment.

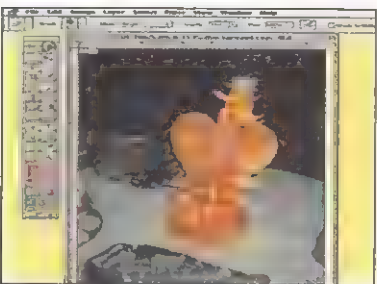


3 Now select the Background layer again, and select Layer > Duplicate Layer to create a new layer in the middle of the stack. Go to Filter > Blur > Gaussian Blur and enter a Radius of around 10 pixels; you'll see it previewed in the pop-up, and also in your image. Hit OK. Now set the layer's blending mode to Screen, and the image will be lightened with a soft-focus effect.



Nested layer folders

Up until Photoshop 7 you could put as many layers as you liked inside a layer folder, but you couldn't put a folder inside a folder. In CS you can; this means you can more logically break down complex images which use lots of different elements.



4 Finally, to draw attention to the heart in the middle, let's remove some of that blurred layer. Select the Eraser Tool, set Mode to Brush and use a hard-edged brush. Set Opacity to 70% so the 'knock-out' isn't too strong, and erase the heart area in the blurred layer. In the finished image the eye is drawn to the central image and its main feature, all thanks to layers and brushes.

Fake tattoos

Ever wanted a tattoo but didn't think you could handle the pain? Here's your chance...



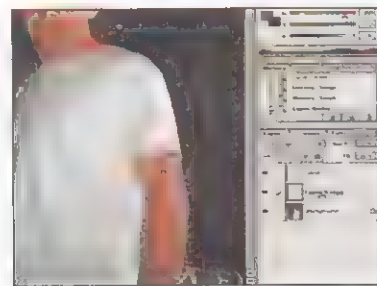
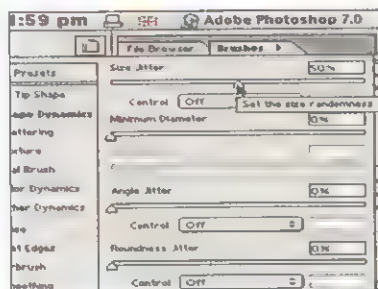
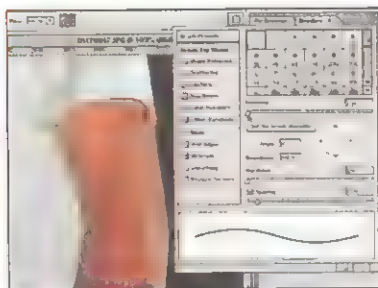
Getting the needle

As a tattoo needle draws by creating a row of finely spaced pin-pricks, you might like to try and emulate this effect. In the Brushes palette, adjust the Spacing so that each mark is slightly separated from the next, and set a very fine Diameter (the width of a needle). Set a low Hardness to create slightly blurred pin-pricks that mimic the effect of the ink spreading.



Inspired tattooing

If you're looking for a particular image to use as the basis for your tattoo, many web search engines give you the option of searching for pictures, as opposed to web pages. In Google, for example, hit the Images tab on the front page, then type in the relevant keywords.



1 Open *tattoo.jpg* from the CD, and zoom in on the right arm. Create a new layer in which to draw the tattoo, then select the Brush Tool and have a think about the brush shape; your best bet is to look at real tattoos to get an idea of what you need. To start with we need the Brush Tool, not the Pencil, because the tattoo needs to be Anti-aliased. Set Diameter to 3 pixels.

2 Set Size Jitter to 50% in the Shape Dynamics controls to simulate the uneven stroke of a needle. If you'd like to change anything else feel free, but there are other ways we can emulate the tattoo look that we'll get to shortly. Choose a dark blue, almost black for the ink. Make sure any colour you use is at most 40% saturated (check the HSB sliders in the Color palette).

3 Draw your tattoo in the empty layer. If you think you'll be drawing filled shapes like the petals of the flower here you might like to draw these first, then draw the outline on top after. Zoom out to see how the tattoo looks in the context of the arm. If you feel it's too bright or saturated go to Image > Adjustments > Hue/Saturation, and adjust the Master Saturation or Brightness.

4 Finally, let's blend our tattoo into the arm. Duplicate the tattoo layer, go to Filter > Blur > Gaussian Blur and set Radius to 3 or 4 pixels. If you turn off the original drawing layer for a moment you'll see a dark blur on the arm, as is often seen around hard tattoo lines. Experiment with blending modes such as Linear Light or Overlay to blend the tattoo in.

Photoshop facelifts

If tattoos aren't your thing how about carrying out some more dramatic cosmetic surgery?

The key to 'cosmetic surgery' in Photoshop is to strike a balance between what's effective and what's plausible. If you go over the top your image will just look silly; if, on the other hand, you try to make your alterations 'realistic' by creating a mundane image then no one's going to be interested. Look around you and consider the kinds of facial blemishes, markings, implants and tattoos you've seen – now push those ideas a stage further.

You'll need to start by visualising what a person might look like with

certain facial features altered, and then think about how you can best create the effect with the tools at your disposal. While it's easy to create effects that wouldn't be possible in real life they will still need to be believable in one respect, so they'll need to blend into the image in terms of texture, lighting, scale and so on.

A final suggestion: think of the idea first, and then see if it can be created in Photoshop – don't ever assume that you can't do something until you've tried it.



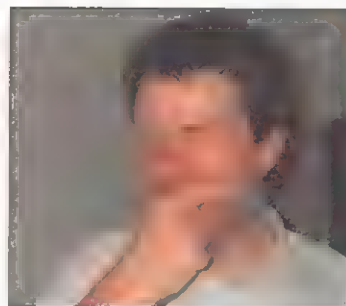
Skin deep

You can find inspiration from all sorts of places for this kind of work – think of Spock's ears or a Klingon's forehead in Star Trek. In real life too, more and more people are opting for cosmetic surgery; it's a lot less painful to have it done in Photoshop!

UNDER THE KNIFE

Using just two tools we can completely web-over facial features

Open an image of a face. Select the Brush Tool, choose a soft-edged brush and paint over the eyes. The skin needs to look sunken over the eye sockets, so you'll need darker colours for areas of shadow and lighter ones for highlights; [Alt]-click (PC) or [Option]-click (Mac) to sample skin tones from the image itself. Then use the Healing Brush to apply skin texture (untick Aligned). [Alt/Option]-click again on a patch of textured forehead or cheek, then paint short strokes to blend in the sampled texture while retaining the colouring and lighting beneath; it may take a few passes to get the right texture in the right places.



Now then, where did I leave those eyes? Not the most flattering makeover, but you get the idea

PUTTING YOUR WORKS OF ART ON SHOW

So now you know how to create artwork and edit photos using Photoshop's brush tools; at some point you'll want to show off your work, either on paper or a computer screen

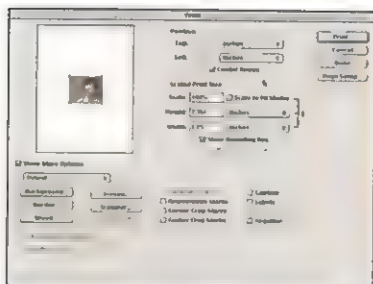
You've had to take in a great deal of information as you've worked through this Focus Guide, and hopefully you've been putting the book down occasionally and trying your hand at some of the techniques that we've demonstrated. Having put in so much time and effort, wouldn't it be nice to be able to share the results with other people? In this chapter we'll show you how to do just that.

Another book

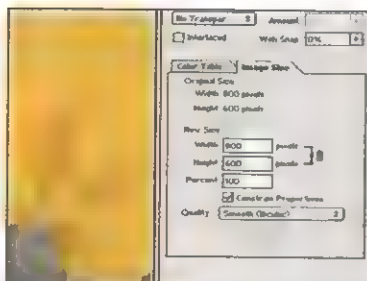
It would be way beyond the scope of this book to cover all the different aspects of exporting, printing and distributing Photoshop files, so we

won't even attempt to do so. What we will do, however, is cover the basics of the various processes involved in getting your work into print, or on to the web.

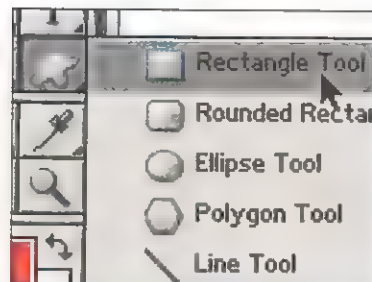
You're probably used to printing off documents, but we'll be taking things a little further than simply hitting 'OK' in the standard Print window. The Print with Preview command enables you to centre, frame and mark-up your image on the page. We'll also be looking at how to prepare your artwork for display and distribution over the internet – whether you simply want to optimise your images so that the files are of a small size without



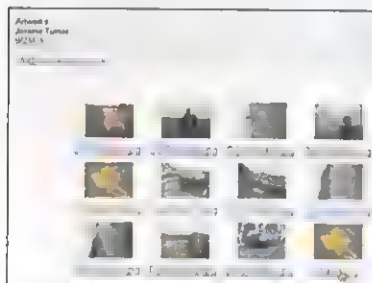
Page 90 Show your Images in their best light using the Print with Preview dialog



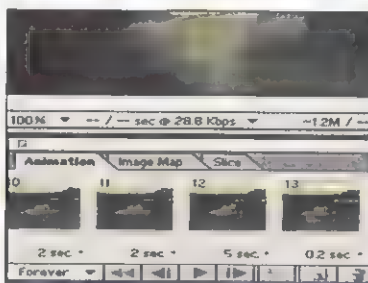
Page 91 If you want small files of high quality choose the Save for Web option



Page 92 Learn the difference between vector graphics and pixel artwork



Page 94 Photoshop enables you to create websites to show off your images



Page 95 Turn your static images into simple animated movies in ImageReady



Page 96 If an image for the web is too large to download in one go chop it up

sacrificing quality, or whether you want create a website from a folder full of pictures.

Further afield

There are a number of applications that you're likely to encounter as you take your work beyond Photoshop. Flash, Dreamweaver InDesign and Illustrator are just a few that you may not be familiar with, but the chances are that you'll need to use one or more of them at some point. And even if you don't plan to export your files to other programs, what happens if someone asks for your artwork in a particular file format or resolution? This is nothing to be

scared of; it's just a case of knowing the correct settings for a particular piece of work. We'll even show you how to create a simple animation using Photoshop's bundled ImageReady application, just to give you a taste of what lies ahead.

Distributing your work means that other people will get to see it, you'll get some feedback, you'll be hurt by their comments, you'll try again, you'll produce something a little better and so on. So, while we're nearing the end of this book, really it's just the start – because now you know how to use brushes in Photoshop you can let the creative side of your brain take over.

Print with Preview

We've all printed files, but Print with Preview gives us a little more control over our output

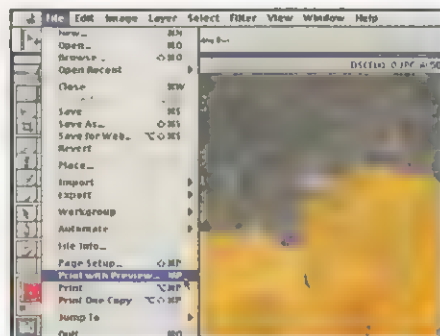


Printer setup

Before you start printing, make sure your printer is correctly installed and set up. Back in Photoshop, if you click on File > Page Setup you should see a window that's part of your printer's software, as opposed to Photoshop's; this will typically enable you to change settings such as paper size and orientation.

However clever computers are, it's still in our nature to be slightly wary of them; part of us always assumes something will go wrong, and we'll lose all our work. As a result, most people have some experience of printing files on to paper. If you haven't already done so, it would be a good idea to familiarise yourself with your printer before going any further.

You may also want to create prints of your work for display – especially if you're showing it to a wider public audience (perhaps in a gallery) or



Photoshop offers a number of printing options in the File menu; the most comprehensive set can be found in the Print with Preview window

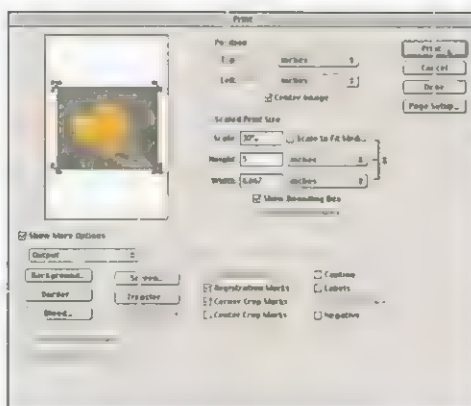
someone without a computer. For a comprehensive range of options, select File > Print with Preview.

PRINT WITH PREVIEW POP-UP

Position the image according to cm, inches or mm, or choose to centre it on the paper.

Add elements to your print-out such as a border around the image; a bleed, which will allow you some over-printing that you can trim away; or a different coloured background.

Preview window – This allows you to reposition the image on the paper by simply dragging the preview image.



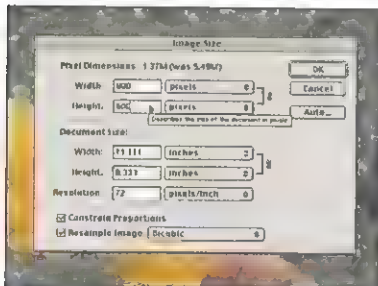
Page Setup – Takes you to a pop-up specific to your printer, so you can set paper size, orientation and so on.

Scaled Print Size – Alters the size of the print on the paper. Click Scale to Fit Media to resize it to fit the paper.

Other added elements such as printed crop marks, registration marks and captions may also help with the presentation.

Save for Web

If you want to upload an image to the web it will help to keep the file size down

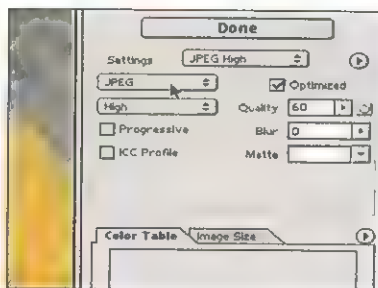


Open an image you'd like to display on the web; we're using flower.jpg from the CD. First consider the size. Click on Image > Image Size and look at the Pixel Dimensions. If you're just emailing the image you're best off making Height a maximum of 600 pixels or Width a maximum of 800 pixels, depending on the shape.

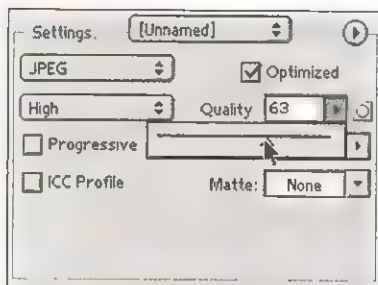


GIFs and JPEGs

These are the two file formats most commonly used to save image files for the web. Saving as a GIF or JPEG from your Photoshop file is like making a web presentation of 'work in progress' – it doesn't affect your Photoshop file. JPEGs are best for detailed work such as fine artwork or photos, while GIFs are more suitable for images made up of just a few colours.



Hit OK to resize the image. Now go to File > Save for Web. Click the 2-UP tab at the top of the main window to display original and optimised version of the image side by side. Note the image size at the foot of the original; for our image it's 1.37MB, which is far too large. The file type for the optimised version may read GIF or JPEG. In the Settings panel select JPEG.

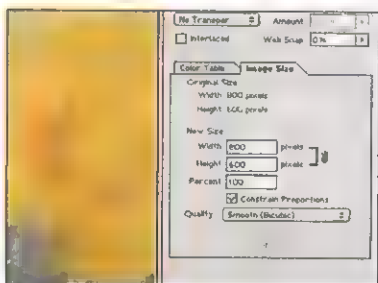


Change quality from to Medium quality and note the file size in the right window – it's gone down. Alternatively, use the Quality slider to set the file size; Blur also does this, but reduces quality drastically. Use the Zoom and Hand tools from the toolbar at the top-left of the window to compare different areas of the original and optimised images.



Progressive JPEGs

In the JPEG settings you may have noticed the Progressive tickbox. When you're on the web and you see an image that gradually becomes more detailed as it downloads, this is a progressive image; it allows the viewer to get an idea of the content straight away.



Note that in Settings can set the Image Size as we did in step 1. However, if you're making major changes, it usually takes longer to process, which is why we did it beforehand, but feel free to use it for small adjustments. Once you're happy with your settings, and have balanced image quality with file size, hit OK and you'll be prompted to name and save your file.

Vectors and pixels

Ever heard of vector graphics but not known what they were? Let us explain...



Coloured vectors

Reshaping graphics that started off as vectors isn't easy in Photoshop, but other processes are. We've seen how much control Photoshop offers over colours and shades, so if you've prepared a vector graphic for printing, or as a web image, it's not the craziest idea to run it through Photoshop first. Use the Image > Adjustments controls, or an adjustment layer, to alter the vectors.

We've seen how Photoshop uses pixels. Zoom right in to an image and you'll see that it's made up of thousands of coloured squares which can be edited over a wide area using the Brush Tool, or close up, pixel-by-pixel, using the Pencil Tool. However, other art packages such as Freehand, Illustrator and Flash use vectors to create graphics.

Vectors are lines or shapes that can be edited once drawn. In Photoshop, if you draw a square on the canvas those pixels are 'painted' on, and if

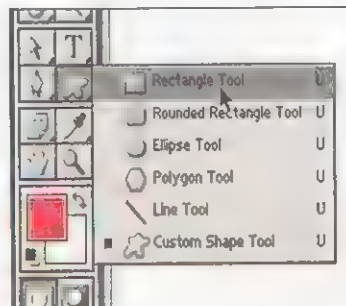
you wanted to edit the shape you'd have to redraw it. If you draw a vector square however, you can pull the corners out to a different shape, or even bend one side into a curve using points and handles.

As we'll see later, while it's possible to import vector artwork into Photoshop, this will then be converted into pixels. In other words it will be uneditable as a vector, so remember to make adjustments to vector graphics in the original vector application before importing them into Photoshop.

VECTORS IN PHOTOSHOP

Actually, it's possible to create you own vectors – here's how

Okay, we lied. You can create vectors in Photoshop – sort of. Select a layer; your vector shape will be drawn above this. Then select a Shape tool (found just below the Type tools). On the left of the options bar you'll see three icons – click the left one, Shape layers, and draw your shape. Alternatively, you can use the Pen or Freeform Pen tools to place points to create shapes. Use the Direct Selection Tool to select and drag the points around, or the Pen tools to add or remove points. Note how the vector is created in its own layer, on a flat colour, and masked by a vector mask; these are represented by thumbnails in the Layers palette.

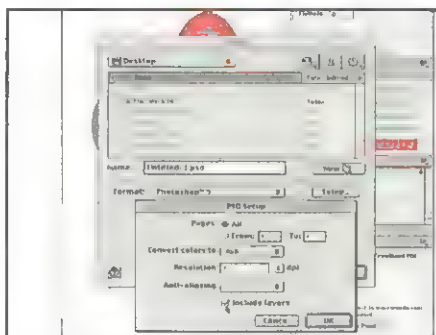


The Pen, Shape, Path Selection and Direct Selection tools are grouped together, as all relate to vector masks

Working with other applications

Using graphics from other packages is easy in Photoshop – but keep an eye on the file type

Photoshop enables you to import graphics from a number of other packages. This is good news if you're looking to combine different media in your art pieces – perhaps there's a frame in your Flash animation you'd like to work with, or a drawing created in Illustrator. Although it might seem sensible to head for File > Import in Photoshop, it's probably not the easiest route. Instead simply try opening the file as usual, regardless of where it originated. If you can't see it listed while browsing for it in Photoshop,



Some applications, such as Freehand, will even allow you to save a Photoshop file, layers and all. Isn't that thoughtful of them?

the chances are that you'll need to change the way you export it from its original application.



Have patience

It can be a little frustrating trying to find a format that will enable you to export a file from one application while also enabling Photoshop to import it. Sometimes the file seems to export, appears in Photoshop's browser and then turns out to be a distorted, 'snowy' image. This can be a problem at either end of the process, and there are many variables to experiment with.



Why Photoshop?

Why do we need to put images through Photoshop if they've been created elsewhere? Well, we've already considered that other graphics types can be used in mixed media artwork, but there are also some things that Photoshop does better than Freehand, Illustrator or Quark. For example, the Save for Web function is great for optimising images for the web, and in Photoshop CS we can even export Photoshop files with vector paths (File > Export > Paths to Illustrator).

THE IMPORT/EXPORT BUSINESS

FLASH is an animation tool, but we can export stills to Photoshop. Select the required animation frame, then go to File > Export Image. Pick JPEG, making sure you set the correct Resolution, select Include > Full Document Size and set Quality as necessary.

QUARKXPRESS is a desktop publishing package which uses TIF files, as they're one of the highest-quality image types, well suited to being printed. If you export a TIF to Quark, you should probably convert the file to CMYK if it's an RGB file (Image > Mode > CMYK Color).

PICT FILE types are usually pretty big files generated by making some kind of recording, for example a still image from a digital video clip. However, they can still be opened as usual in Photoshop.

FREEHAND MX actually enables you to save a file as a Photoshop file, and, if you dig deep enough, there's even a layers setting.

Creating a web gallery

Photoshop makes it easy for you to display a collection of your images on the web



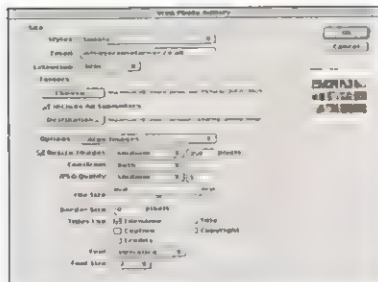
Putting work online

To put your gallery online you'll need an FTP (File Transfer Protocol) application such as Fetch, Transmit or CuteFTP; some web design tools have the same controls built into them. You'll also need to get some web space. Collect the FTP details (server, username, password) and use them in your FTP application, then upload the folder to your web space.

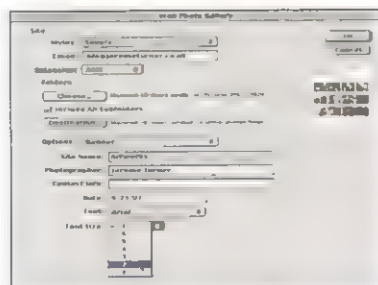


Web galleries

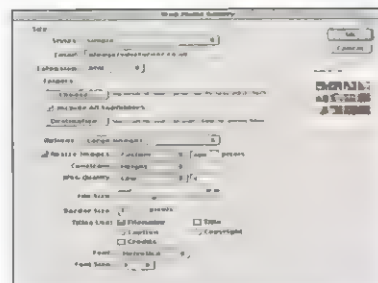
You'll find thousands of image galleries online, showing off all kinds of work. While Photoshop's automated web gallery method is a little basic, it is at least a quick and easy way to show your work. However, why not try designing your own pages? The internet contains a wealth of information on web design.



Start with a folder containing around 20 images. These can be JPEGs, TIFs, GIFs or any other type of file; they'll be saved as JPEGs in the end. Click on **File > Automate** and choose **Web Photo Gallery** from the list. First choose a style from the top. 'Simple' will be fine; you can see how it looks in the preview. Type your email address, so visitors can get in touch.



In the **Folders** section hit **Choose**, then **Browse** to find the folder containing your images; select it and hit **Choose**. Then pick the **Destination** folder; if you don't have one browse to the desktop and click **New Folder** to create one for the finished site and related files to be saved to. Under **Options** select **Banner** to enter the information that will appear at the top of each web page.



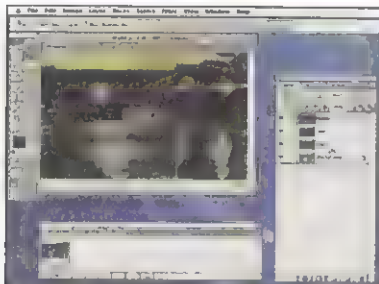
Next select **Large Images** from the **Options** dropdown. Tick **Resize Images** and choose **Small**, **Medium** or **Large**, or **Custom** to enter your own size. If you want to set this figure for a particular dimension, choose **Constrain Width** or **Height**. The **JPEG Quality** and **File Size** are co-dependent. You can also set a border for your images and add captions.



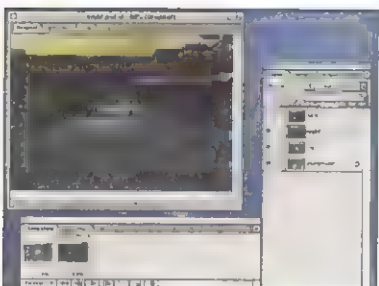
Return to **Options** and select **Thumbnails**. Set the size and how you would like them to be laid out. Note that if your columns multiplied by your rows is less than the total images in your folder, the site will be split into two sections. Click **OK** when you've finished and the website will be complete – it should automatically open in your web browser for you to preview.

Animating using ImageReady

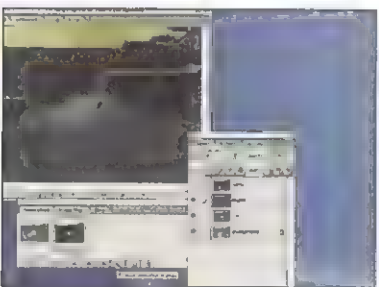
Why not use your artwork to create simple animations for viewing on the web?



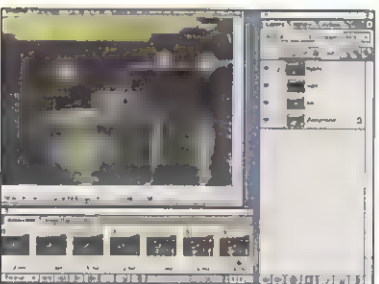
Start off with a Photoshop file containing different animation 'states' on each layer – you can use night.psd, which was created by drawing in one layer, duplicating the layer, adding new elements and so on. To animate this, we'll use ImageReady, which can be opened by clicking the 'switch-over' button at the bottom of the Photoshop toolbar.



In the Layers palette turn off the lights layer, then select the night layer and reduce the Opacity to 0%. Make sure the Animation palette is open. Select the first and only frame in the animation, and at the foot of the palette hit the Duplicate icon to create a new frame. Select it, and in the Layers palette set the night layer's opacity to 100% so that it shows on top of 'day'.



We want to gradually fade from 0% night to 100% night, but first let's set the amount of time between each part of the fade – things will become clearer in a moment. In frame one, click where it says 0 sec and enter 2.0. Select the second frame and click the Tween button to animate between the states. In the pop-up change Frames to Add to a value of 10, then hit OK.



See how frames have been added, each showing more of the night layer and each pausing for two seconds. Select the last frame, change the pause time to 5 seconds and then duplicate it. In the new frame, turn on the lights layer with opacity of 40%. Change the pause time to 1 second. Then create more frames so the lights 'flicker' into action. Finally, select frame 1 and hit Play.



Saving and using animations

Once you've made an animation, click on File > Save Optimised. Even though it looks like you're just saving one GIF file, this saves all frames as a sequence that can be played back online or in players such as QuickTime. Keep in mind that this file will be bigger than a static image, because it's made up of several different graphics.



More animation

You can also change the location of layers in your animation – where we altered the opacity in our tutorial, simply drag the layer with the Move Tool, then hit Tween. To make two layers animate at the same time, first animate one as usual. Then, making sure you have the other layer selected for animating, make changes in a 'start' frame and then an 'end' frame. Now select that range of frames by [Shift]-clicking the start and end frames, then hit the Tween button.

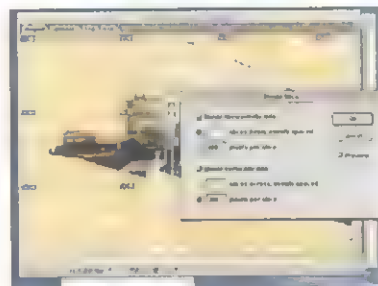
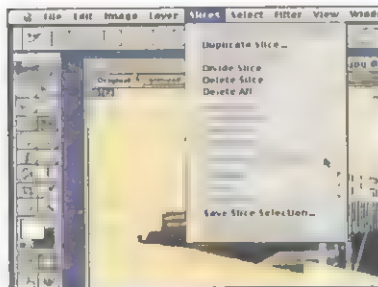
Slicing large images

A large image file will download a whole lot faster if you break it down into 'slices'



Alt text

If you've ever waited ages for an image to download you may have seen text appearing in the allocated space first. This helps to let the viewer know what the image will contain once it's downloaded, so they know whether to bother waiting for it. We can add this function in the Slice palette; select a slice and then enter text in the Alt field.



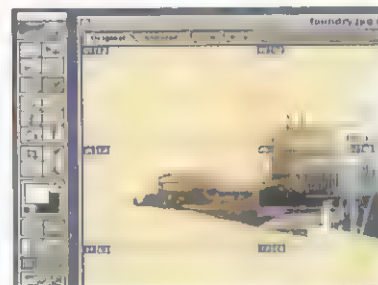
Open your image in Photoshop and hit the Jump to ImageReady button at the foot of the toolbar. There are three types of slices: User Slices created by the user; Layer-based, which includes all pixels in a layer; and Auto Slices, which ImageReady adds to fill unsliced gaps. Check that Slices > Promote to User Slice is greyed out or select it if it isn't. This turns the image into a user slice.

Now hit Slices > Divide Slice and you'll see a new pop-up. In Divide Horizontally Into, enter 3 in the 'slices down' field so the image will be cut into three rows. We could enter a number of columns in Divide Vertically Into, but let's set a specific number of pixels instead – 200. As long as this window's Preview box is ticked you'll see the image divided up on the canvas.



Manual slicing

Rather than using the Divide Slices window as shown above, you can of course slice from scratch using the Slice Tool. Then reposition the slices by clicking and dragging the borders as before. You can also slice in Photoshop, as it contains Slice and Slice Selection tools in the toolbar; we chose to use ImageReady as it's more versatile for this kind of work.



Hit OK, then Select > Deselect Slices. We could leave the picture like this, but let's add a clickable section, so that if it's clicked in a web browser it'll link to another page. Select the Slice Tool from the toolbar – it looks like a scalpel. Find a start point where a slice currently intersects, then click and drag a new slice from the image.

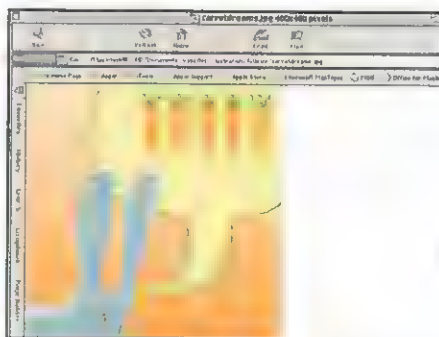


If the new slice isn't highlighted use the Slice Selection Tool to select it. Then look in the Slice palette (open it by selecting Window > Slice). In the URL field type a web address, including the http:// prefix to make this a clickable link. Finally, do File > Save Optimised. In the pop-up select Format as HTML and Images and upload your HTML page and Images folder to your web space.

Showing and sharing images

So you've created your masterpiece – now it's time to unleash it on the wider world

Even if you've just been creating artwork or editing photos for your own enjoyment you'll probably want to show the results to your friends if they're any good – and if they're not you could always do with some constructive criticism and advice. On the other hand, your work may have been created for a specific purpose – artwork for a client, or perhaps a banner for a web page – so it's worth being aware of the numerous ways of viewing your images. Keep in mind things such as the download time (you can find this



A file opened in Internet Explorer – note the file name in the URL bar, showing that the file is resident on this computer, not the internet

at the bottom of the Save for Web window) and compatibility with different browsers.



Quick view

If you just want to quickly view an image, clicking on it from your desktop may open it in Photoshop, which can take a while. Instead try right-clicking (PC) or [Control]-clicking (Mac) the image to see if there's a 'preview' or 'quick view' option to open it in a basic image viewer. In some cases you can just 'drop' the image on to the icon you normally use to open that image viewer.

SHOW AND TELL

EMAIL can be used to send images. Save your file as a JPEG no larger than 100KB. The recipient will probably be able to open it and save it on their own computer.

WEB BROWSERS such as Internet Explorer, Mozilla or Netscape Navigator can be used to view images. Start the application and simply select an option along the lines of File > Open File; the image will appear flush to the top-left of the browser.

ONLINE VIEWING follows exactly the same principle, although you'll have to put the image online first using an FTP program. Online images don't need to be put inside an HTML page – they can be viewed in isolation in the browser.

ANIMATED GIFS can only be viewed using media players such as QuickTime Player or Windows Media Player.



QuickTime

The QuickTime Viewer (for static images) and QuickTime Player (for animations and movies) are applications produced by Apple. They enable you to quickly view your work, and also view images and movies on the web.

A PHOTOSHOP PROJECT FROM START TO FINISH

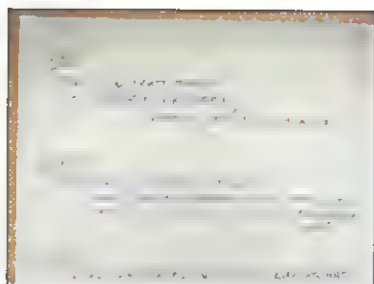
Hopefully you're now well on your way to mastering Photoshop's brush tools, so let's bring all you new-found knowledge together as we create an ambitious work of digital art

When you first picked up this Focus Guide you were probably wondering just how much there could possibly be to learn about brushes and Photoshop artwork – surely not enough to fill an entire book? Well, hopefully the ground we've covered since then will have convinced you otherwise. In the first few chapters of the book we looked at the various brush settings and options, before putting some of that knowledge to practical use. This final chapter doesn't cover any specifically new ground – so there's no need to worry that you're going to be overwhelmed with even more information – but we will be

discovering some new ways to use the tools and techniques that we've already looked at.

A little bit of everything

Our case study starts by looking at how some initial ideas were worked through and developed into graphic structures on paper. Then, in Photoshop, we'll consolidate these ideas with some structural layers, even using the original paper sketches in scanned form. Other sources such as photos and video stills are then thrown into the mix. Of course, the intention is to see how many brushing methods and styles we can, so there will be some



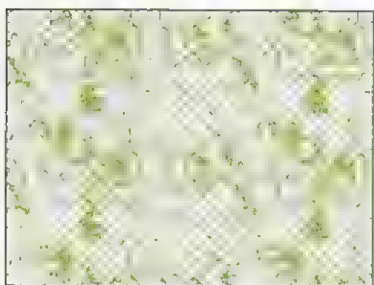
Page 101 See how the original idea evolved using a variety of techniques



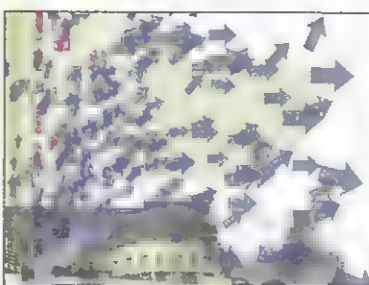
Page 104 Blend photos together to form the backbone of the piece



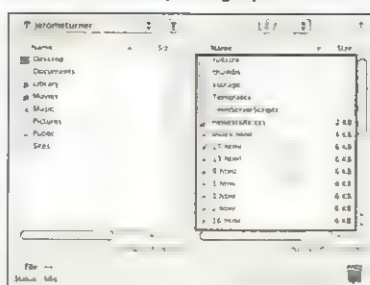
Page 108 Simple pixel art is added to contrast with the photographic media



Page 111 Patterns are created, then incorporated into the composition



Page 113 A scattering brush is used to quickly add new graphic creations



Page 121 Once it's been prepared in slices, we'll put our image online

tracing involved, as well as freehand drawing and colouring from scratch. When we're finished we'll look at the best way of presenting our work.

Other chapters contained pages you could dip in and out of, but to follow this project you're best off working with us from start to finish. Use the case study images on the CD to work from, or use your own creations if you prefer.

Loads of brush work

The piece we're creating in this case study will rely heavily on brushing methods to illustrate what we've already worked through, but don't assume that you have to work quite

so much into your own pieces.

Indeed there are many Photoshop users out there who very rarely touch the brushes – not because they don't know how to use them, but because they're not necessary for the kind of work they do with the application. So, although we've seen dozens of different uses for the brush tools, remember that each one has its own place within a balanced Photoshop practice. As we've shown you, the best results come from knowing how to use brushes alongside layers, filters, colour adjustment techniques, masks and the plethora of other Photoshop functions available to you. Have fun!

Brainstorming – ideas on paper

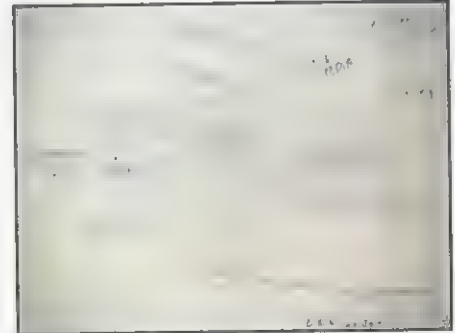
Before we even touch Photoshop we need to establish some kind of structure for our piece



Keep everything

Don't be tempted to throw away what you may consider to be bad sketches or useless notes. It might help to keep a box or folder where everything can go; don't make assumptions about what you do or don't need in the future.

At the centre of any piece of artwork should be an idea. For the moment all we know is that our image should illustrate as many brush techniques as possible without looking overloaded or crowded. As we're mixing lots of styles, it follows that we'll probably be creating some kind of collage. Already we're establishing some ideas, so it's a good idea to start putting these down on paper, noting or sketching anything that may be useful. We're able to consolidate some of these ideas by drawing a



We can use the tree diagram to outline initial observations and connections which may seem obvious now, but will be useful references later

'tree diagram' with the central idea – 'artistic collage displaying brush techniques' – throwing up new ideas.



Try a storyboard

When films are scripted and planned, one method of brainstorming is to use a storyboard. This involves drawing consecutive panels describing shots in very simple, sketched form and applies well to film, as a rectangle can describe the frame of a camera shot. Look for ways of working that are suited to you and your medium.

HOWS AND WHYS

WHY are we creating this piece? To show how brushes and brush techniques can be combined effectively in Photoshop artwork.

WHAT are we creating? A collage effect featuring as many of the techniques that we've covered as we can, without crossing the taste barrier or overworking the image.

WHERE will it be set? What personal or geographical influences will affect this work? Perhaps we'll make it location-specific.

How are we creating the artwork? Largely using Photoshop yes, but outside of the computer, it would be interesting to mix in photographs, video stills, scanned images or scanned textures.

WHEN are we making it? Just as the place in which we live can influence artwork, so can the times that we live in.

Out and about – being inspired

Look all around you for inspiration – it can come from the unlikeliest of places

Even though we've started off by making some helpful notes and pushing ideas around on paper, we're still desk-bound. But there's a whole world of people, places, nature and architecture out there waiting to inspire you! Allow new ideas to come to you, while being careful that flashes of inspiration don't obliterate your initial plans. This needn't necessarily be a process you try and force – once you start thinking creatively you'll notice patterns in paving slabs or buildings, or even bubble formations in the

washing up! When it's particularly striking, the image will stay sharp in your mind, ready for later interpretation in Photoshop. Of course, it could be that you make a specific point of 'being inspired' – leave the house and don't return until you've filled a notebook with sketches or your digital camera's memory card with photos. Whatever your approach, remember there's a world of stuff out there, and it's the same world that inspired all the great artists and designers – you just need to take a long hard look at it.



Spare time

Use your spare time to collate ideas. Sometimes a ten-minute train ride into work can provide enough time to think through ideas, and you might also be inspired by the different environment and people around you.

CASE STUDY – INSPIRATION

Collecting imagery is one of the first steps

Take a camera with you everywhere you go and you'll soon find that it fills up with compositions that strike you as interesting. A camera is still one of the easiest ways of recording a scene or event and using a digital camera enables us to snap away without worrying about printing costs. I had my camera with me in the centre of Birmingham, and realised that the architecture of the city, including the ultra-modern Bullring development, would lend itself well to the mish-mash of styles and brush methods I had in mind for the image. So, I snapped away, taking a series of images that I could hopefully join together in a collage.



The Bullring shopping complex in Birmingham is rich with inspiring architecture and wide open spaces

Creating a simple structure

Having consolidated your ideas you should be able to create a simple structural layout



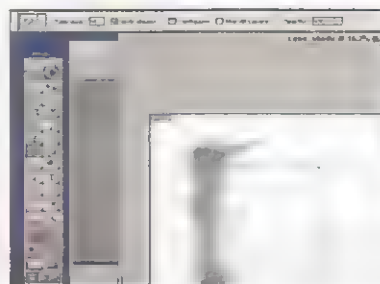
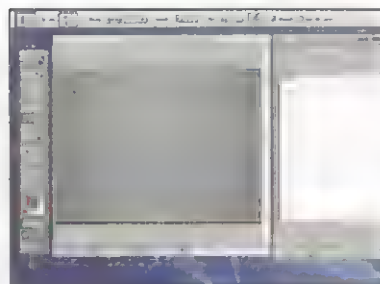
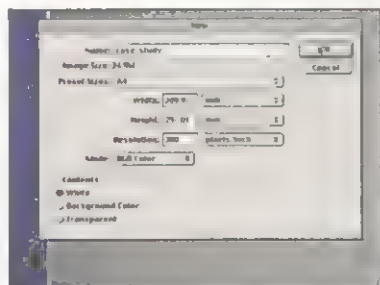
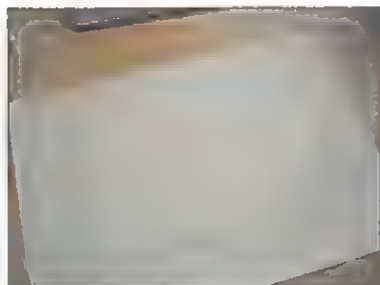
Losing quality

As you transform the sketch with the Magic Eraser it will of course lose quality. However, as it's just a rough guide, and we're not going to be using it as part of the final image, this doesn't matter. As long as we can see the pen-drawn lines we'll be fine.



Layer positions

Throughout the development of this image you'll find yourself turning this sketch layer on and off to see how your progress is coming along without this guide. As it gets buried under piles of layers though, you'll still want to see it, so you might want to consider putting it at the top of the stack for easy access.



As we're still working from sketches at this stage let's sketch a layout on a sheet of A4. My plans have been influenced by the Bullring photos; I'd like to use them as the basis for a panoramic piece. Start by drawing a letterbox rectangle on a sheet of paper divided into thirds – a layout favoured by many designers. Roughly sketch the shape of the main subject within this.



Scan the image and open it in Photoshop, or take a photo with a digital camera and load it up (or use `paperplan.jpg` from the CD). This second option might seem odd, but we're only after the rough shape, and it's a quick solution. With this sketch file open, create a new 300dpi A4 RGB file. Then click on `Image > Rotate Canvas > 90 CW`.



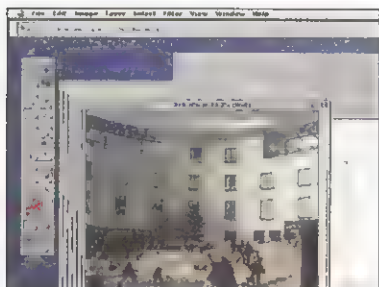
We can now use the Clone Stamp Tool to paint in the basic structure from the sketch. In the main file, create a new layer called `Sketch` and then line up the two canvasses. Select the sketch file and choose the Clone Stamp Tool. Set it up with a large, soft brush and make sure `Aligned` is ticked. `[Alt]-click (PC)` or `[Option]-click (Mac)` on the extreme left point.



Go to the main file and make sure the empty `Sketch` layer is selected to paint into. Start cloning the sketch from left to right, pasting the structure into your canvas. You'll see the sketch size is smaller than your canvas, so use `Edit > Transform` to stretch it. Select the Magic Eraser, with `Tolerance` set to 15 and `Contiguous` unticked, and erase areas of the background that you don't need.

Creating a photo joiner

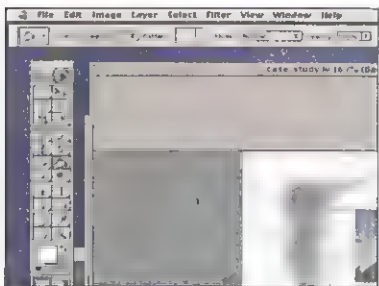
Now let's import the photos we took, and see how they can be incorporated into the piece



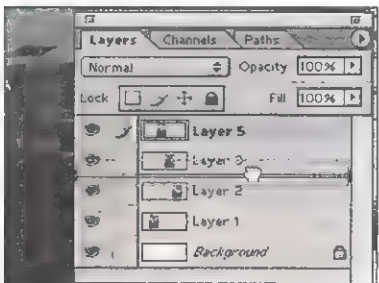
1 You can now close the sketch file, but keep your main file open. Then open any of your original photos which you think could be positioned together to create a panoramic image; you can use our source images br1.jpg to br6.jpg from the CD. Each one will open in a new canvas, but we can easily bring them together.



2 Line up the main canvas next to the images and select br1.jpg. Using the Move Tool, click and drag the photo to copy it from its canvas and paste it into your main file. Do the same with the next two photos; you'll see that each one is pasted into a new layer in your main file. There's a problem, however: they won't all fit. Not to worry – click on Image > Canvas Size.



3 In this pop-up we can make the canvas larger without affecting the contents. Enter a figure that's at least double the current width of the canvas; this will give us plenty of room. Hit OK. If the added sections aren't the same colour as the rest of the canvas, go to the Background layer and use the Paint Bucket Tool to correct this. Then add the rest of the photos to the image.



4 Select each layer in turn and, using the Move Tool, position the images so they join together in a panorama; don't worry if they look a bit 'montaged' and don't join perfectly for the moment. Also remember that you can change the stacking order of the layers if this helps; in the Layers palette, just drag the layer to a new position. We can now close the original photo canvasses.



Opening multiple files

If you need to open several image files at a time in Photoshop, here's a quick way. In the browser window where you normally select which file to open from the list, hold down the [Shift] key and click to highlight one image file, then the next, and so on. Then hit OK.



Selecting layers

Sometimes you can see an image on the screen that you know you want to edit, but aren't sure which layer it's on – this will definitely happen once you start building up a lot of layers. If you right-click (PC) or (Control)-click (Mac) on any part of the image, a pop-up menu appears showing which layers lie under the cursor, and enabling you to select the layer that you want to edit.

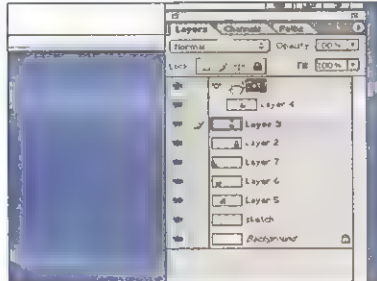
Blending your photos

With the photos laid out you'll probably want to blend them together a little more subtly



Feathering

We've used feathering within our selection here as it creates a soft edge; this will ensure that, even if you erase all the way up to the edge of the selection area, you don't make any nasty hard edges in the blend. Any time you're using a selection tool look for feathering options, and decide if you will need them; if you make a selection and want to add a feather afterwards, simply click on **Select > Feather**.



First let's group the photos – they'll be easier to edit that way. At the bottom of the Layers palette, click the **Create a new set** icon that looks like a folder. Double-click the folder that appears in the palette and rename it 'photojoiner'. Then, one by one, drag each photo layer upwards and drop it on to the folder icon to add the photos to the set; they'll appear slightly inset.

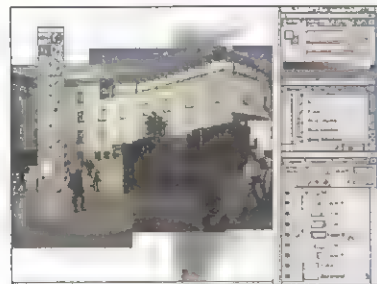


Once all the photo layers are grouped in this set you might need to reshuffle their stacking order. However, note that you can now edit the panorama as a whole by selecting the photojoiner layer, as if all the grouped images have been merged down as whole. Use the **Move Tool** to reposition the group in the centre of the image.



Photomerge

If you're stitching images together to create a panorama, Photoshop CS can help you out with its **Photomerge** feature. First open all the files you want to join together, then go to **File > Automate > Photomerge** and make adjustments in the pop-up work window that appears. Of course, you may prefer the hard-edged, lo-fi effect of doing the whole thing by hand.



Select the rectangular marquee, with **Feather** set to 30, and draw a vertical rectangle that will span the join between each photo. Select any layer that overlaps with another to create an edge you want to soften. Still using the **Rectangular Marquee Tool**, grab and drag the rectangle shape so it sits over the join. Now hit **[Delete]** to soften the whole edge.



If you have enough image overlapping you may want to show part of a building, floor or group of people coming through from the image below. In this case, you can use the **Eraser Tool** with a soft brush to rub out parts of the top, overlapping layer – make sure you have the right layer selected though!

Balancing the lighting

We can use the Soft Light blending mode to balance the lighting between images

There's a certain method to taking 'joiner' sets of photos successfully. Start by standing in a position facing what will be the central image of your montage, so that you can rotate freely on your hips (or use a tripod of course). Now, looking through the viewfinder the whole time, take the first photo starting from the left, rotate right slightly so there's a small overlap, take another photo, and so on until you've got in enough panorama – or put your back out, whichever comes first! This is the most that you can

do to make sure that your pictures will join together well, but as you can see, the join is rarely seamless. Firstly, as the camera rotates, the light source (in this case the sun) will hit it from different angles, and with differing intensity. In addition to this, it's worth keeping in mind how cameras work. As most light is aimed at the centre of the image, pictures are occasionally darker (less exposed) around the edges. Therefore making 'joiners' can be a little tricky, as it's the edges that we're most concerned with.



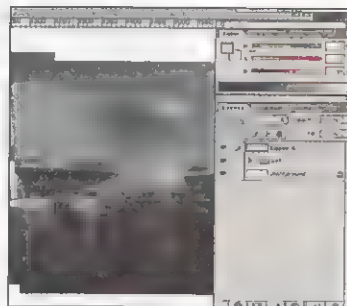
The joy of sets

Grouping our photos is convenient; however, it does have limitations. If we wanted to apply an effect to the set as a whole, such as dodging and burning, Photoshop won't allow us to. Instead, we have to select each photo and work on them separately, or merge all the layers down to one. However, we could paint into a Dodge blending mode layer above the set, and a Burn layer above that.

SOFT LIGHT MODE

Balance out uneven lighting using this subtle blending mode

First click the arrow by the photojoiner set in the Layers palette. This will collapse the folder so it takes up less room. Create a new layer called 'softlight' above the set, and change its blending mode to Soft Light. Select a large, soft brush and, in the Color palette, set the ramp to Grayscale Ramp using the menu. Then use greys darker than 50% to slightly darken the set, and greys lighter than 50% to lighten it. Try to match large areas such as the sky or brickwork from one photo to the next. Alternatively, if you're using CS, try fixing your lighting issues with the Match Color feature (Image > Adjustments > Match Color).



The Soft Light blending mode is one that you'll turn to time and again for subtle alterations to exposure

Tracing from the panorama

We can trace elements from our panoramic photograph to work on within the montage



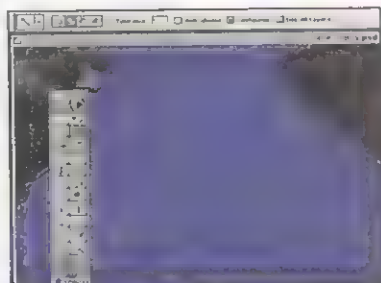
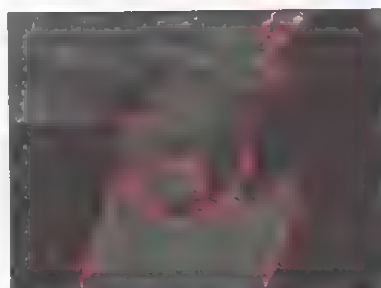
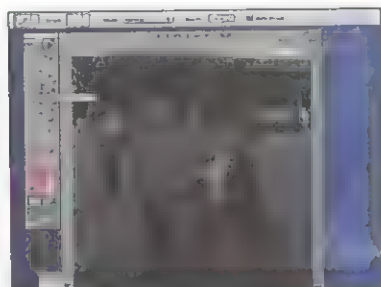
Flat colour

The traced element shown in this tutorial adds two areas of strong, flat colour which work well in an image that's otherwise very detailed and multi-dimensional. We've drawn attention to these figures, while at the same time erasing all their detail. To let some of their original detail show through from below try reducing the layer's opacity, or setting different blending modes.



Expanding selections

If you look at my 'filling' in the image, you'll see that some parts of the couple are poking through from behind, such as the corner of the woman's bag. To ensure that you cover the entire object, either zoom in and add pixels by hand or make the Magic Wand selection as shown in step 4, then go to **Select > Modify > Expand** and try 1 or 2 pixels. You may lose a little definition around corners, but this should be pretty minimal.



1 Create a layer above the softlight layer called 'tracing'. We've already looked at how storyboard artists present ideas in a time-based way, and this is also true of this panorama. Notice the people in the central part – they can be seen as walking from the right 'past' to the left 'future'. I see the centre as the 'present', so this is what I'd like to focus on. Zoom in and select the Pencil.

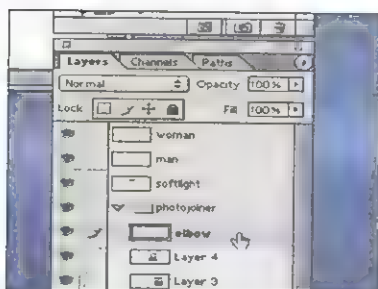
2 Set the Pencil to Normal mode, 1 pixel wide. Zoom in on the couple in the centre, and trace around their edges. Use the Eraser in Block mode to fix any mistakes. Don't worry about inner details, just trace the outline making sure you don't leave any gaps, as we'll be filling this shape. Make a distinction between the woman's shape and the man's, so you have two separate shapes.

3 Turn off the softlight, photojoiner and sketch layers. Create a new layer called 'man', choose a blue to fill him with and select the Paint Bucket Tool. Ensure Anti-aliased is off and Contiguous and Use All Layers are on, then click inside the shape to fill it. Notice how the selection is made from the lower layer but painted into 'man'. Create another layer called 'woman' and fill that outline.

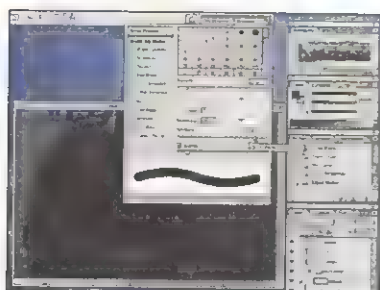
4 If you turn off the tracing layer you'll see the edge of the painted area isn't entirely 'clean', with stray pixels appearing. In the man layer, select the Magic Wand, set Tolerance to 1, and untick Anti-aliased. Click on the fill; the tool should select a smoother outline. Select the right foreground colour and do **Edit > Fill > Foreground Color**. Repeat for the woman layer.

Painting in missing parts

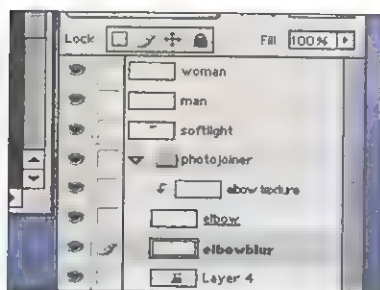
We can use the Brush Tool to fill in gaps, and to paint new elements into the image



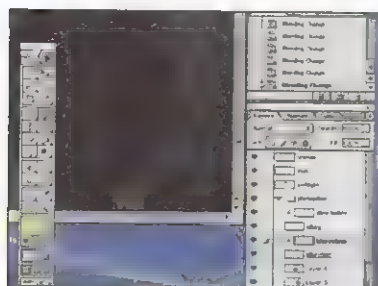
1 On the previous page we introduced the idea of the centre of the image representing the 'present'. The man in the extreme foreground is seen blowing his nose in the two sections to the right, but his elbow has become cropped off, so let's paint it back in. Create a new layer called 'elbow', expand the photojoiner set and place the elbow layer at the top of the stack.



2 Select the Brush Tool and open the Brushes palette. Select the Brush Tip Shape tab. Set Diameter to 20 pixels and Hardness to 95%. Now, making sure you have the elbow layer selected, [Alt]-click (PC) or [Option]-click (Mac) the jacket to set the brown as your foreground colour, then paint in the elbow. Duplicate the elbow layer and call the new one 'ElbowBlur'.



3 Now to add jacket texture to the new elbow. In the layer containing the jacket use the Lasso Tool to select an area of texture the size of the elbow. Copy and paste it into a new layer, 'elbow texture'. Move this layer so it sits above the elbow layer and covers the new elbow. With the Move Tool selected, [Alt/Option]-click between 'elbow' and 'elbow texture' to create a 'clipping group'.



4 In a clipping group the bottom layer limits the pixels shown, and controls the blending mode and opacity of layers in the group. Select 'elbowblur' and apply a 3-pixel Filter > Blur > Gaussian Blur. Create a layer called 'blurcolour' and clip the two together. In 'blurcolour', paint yellow around the elbow's bottom edge and white at the top. Change 'elbowblur' to a Soft Light layer.



Clipping groups
These are a new concept, so take the time to understand how they work. We group layers together by selecting the Move Tool, then [Alt]/[Option]-clicking between layers, and this is also how we ungroup them. You can also group together several layers at a time. Remember that the bottom layer only controls the blending mode, opacity and pixels shown above; the actual content is found in the group's layers.



Note the details
In this example, there's a faint yellow and white halo around the existing arm, so adding this helped to add a sense of realism and the idea that the painted elbow is part of the same object. Keep an eye out for these little details – in theory that yellow halo should never have appeared in the photo in the first place, but it's a photographic anomaly that makes the image more 'real' by its presence.

Adding pixel art

Adding some fine details can help to lead the viewer's eye around the picture



Isometric rules

If you want to enlarge or reshape a box, remember that you'll have to do so according to the isometric rule – two pixels along for each pixel down. You won't be able to use the Transform controls, but you may be able to save time by using the Lasso Tool (no Feather, Anti-aliased off) and then the Move Tool to reshape the box.

This is really meant to be a collage piece, let's stop messing around with the photo element – we can come back to it later if necessary. Adding some pixel art will take us into the realms of mixed media. However, it shouldn't be totally distanced from the themes, imagery and ideas we've been working with, so take a moment to refer back to your original notes. The hard edges of pixel artwork will sit well against the strength of the Bullring and its modern architecture, and as parts of the panorama are

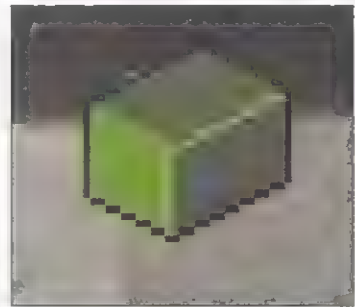
already made up of fine details, such as the people lounging against the rail, the pixel-by-pixel imagery won't contrast too much.

You may find it's easiest to build up your drawing in layers; first the outline, then the filled shapes, then some shading and shadows (see pages 65-67). Consider how much you want the pixel art to stand out; should you use a hard black outline? As long as you keep your layers separate while editing them, you can simply use the Image > Adjustments list of controls to lighten the pixels.

URBAN REGENERATION

Not enough buildings? Draw in some small ones of your own...

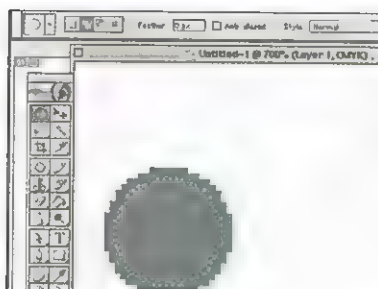
We have plenty of influential shapes in the panorama – what on earth are those large, dark green cubes to the left? Let's zoom in and make some of our own. Add a new layer, 'pixel outline' at the top of the stack and draw an isometric cube. The photograph's light source is coming in from the left (see the shadows) so we'll colour it accordingly in another layer ('pixel fill') with shades of green. We can then merge the fill layer down to the outline so the 'block' is all in one layer. Then repeatedly duplicate the layer, and reshape and reposition the boxes to create a mini-environment – a cube city. Place all related pixel art objects into one pixel set.




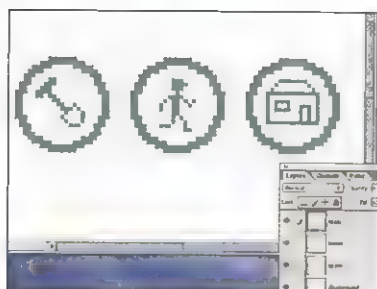
Remember the rule for pixel art: two along, one down – it's a nice contrast with the perspective of the photo


Creating larger pixel graphics

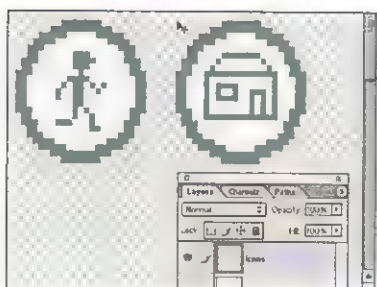
While we're working with pixels let's also create some larger, blocky graphics




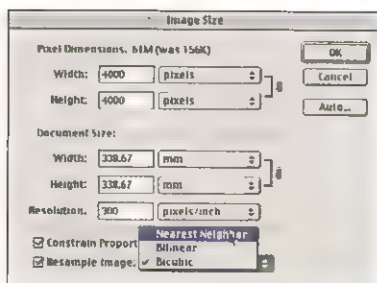
 Rather than creating these graphics in the main file, start a new one and zoom in for pixel-editing. Select the Elliptical Marquee Tool, click Add to Selection, untick Anti-aliased and draw a circle. Choose a colour, and in a new layer select Edit > Fill > Foreground Color. Then do Select > Modify Contract and enter 2 pixels. Hit [Delete] and we've accurately drawn a ring.




 Duplicate the layer two or three times, then line up the rings in a row. Now to fill them with symbols. Consider what's relevant to the piece and can also be drawn in a few pixels. Here, a spade depicts the building work that has been in progress, the man walking shows the progressive nature of the people who made it happen, and the house represents urban regeneration.



 Turn off the Background layer so we can see the icons in isolation. The positioning is fine, so Layer > Merge Down the three icon layers into one. Create a layer below the icons and fill the 'back' of each one with white – you can use the Pencil Tool for this – then merge the layers down.



 Click on Edit > Image Size. Make sure Constrain Proportions and Resample Image are ticked, then multiply the Pixel Dimensions by an exact figure. Before hitting OK, it's important that you change Resample Image to Nearest Neighbour; this keeps the edges aliased. Then hit OK, and drag the Icons layer into your main file.



Resizing again

Once the icons graphic had been added to the picture I decided to use it again, even larger. I duplicated the icons layer and called the new one Icons2, then hit Edit > Transform > Scale. When doing this take care; if you resize manually there will be ugly anti-aliasing. Instead, in the Options, multiply H (Height) and W (Width) by the same number. Change the blending mode and reposition the graphic.



What effect?

So, we've added some very blocky, pixelated graphics – but how does this affect the reading of the image? The large, flat blocks of colour contrast with the fine detail of the photo in a similar way to the central couple. The icons also create an 'old-skool' technological style – they're obviously computer graphics, but look as if they've been lifted straight from an eighties Atari game! In many ways this could also describe Birmingham – forging onwards but always conscious of its history.

Adding a grid

First we'll create a grid shape, then we'll paint it on to the building in our main image



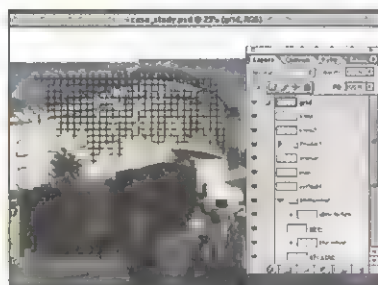
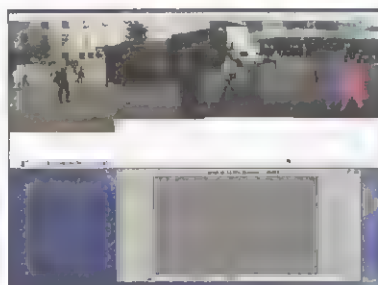
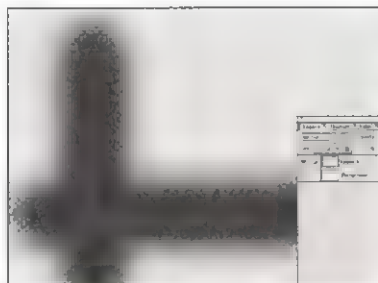
Useful grids

You can use grids in other ways too. Try creating a grid, then changing the perspective with the Transform controls (Edit > Transform > Perspective). If you make it smaller at one end and tilted, you can create a real sense of space. You can come up with some very futuristic compositions like this – anyone remember the movie *Tron*?



Unplanned move

The idea to wrap the grid around the building wasn't planned, and only came to me at this stage. I was naturally drawn to the smooth, rolling shape of the front of the building, so it seemed logical to work something into this. You'll often find that ideas will come to you like this.



Start a new 3,000x2,000-pixel file called **Grid**. Create a new layer to design the grid in and zoom in to 'pixel level'. Turn off the Background layer, or white will be included when we define the pattern. Pick a soft-edged, 20-pixel brush, and while holding down [Shift] draw two crossing, straight lines. Use the Rectangular Marquee Tool to select a basis for the grid as shown.



Click on Edit > Define Pattern and call it 'grid'. Delete the layer you drew the grid into and create a new one, also called 'grid'. Hit Edit > Fill, and in the Contents section set Use to 'Pattern' and find Grid in the list. Hit OK and the layer will fill. Notice how, close-up, the blurred edge of the grid looks like a dropped shadow. Line up the grid file and the case study so both are visible.



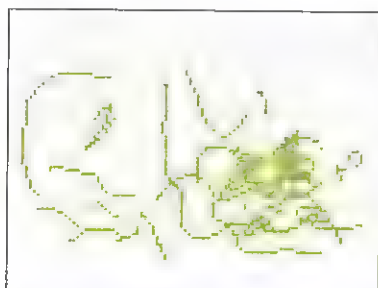
Select the Clone Stamp Tool and [Alt]-click a sample point at the centre-top of the grid. Then, switching to the main file, create a new layer called 'grid' at the top of the stack. Clone the grid so it has a straight top edge touching the topmost wooden roof strut and then hangs down like a curtain. Now, using the Liquify Filter, we'll wrap it around the building.



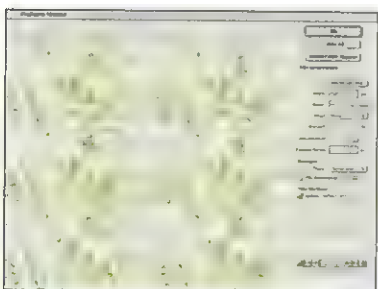
Click on Filter > Liquify. In View Options set Opacity to 100% and tick Backdrop. Set Brush Size to 280 and Pressure to 20. Select the Zoom Tool from the interface's mini toolbar and zoom in to 100% around the grid. Select the Warp Tool. By dragging the tool down from the top edge at the left and right, we can warp the grid so it wraps around the curve of the building.

Adding patterns

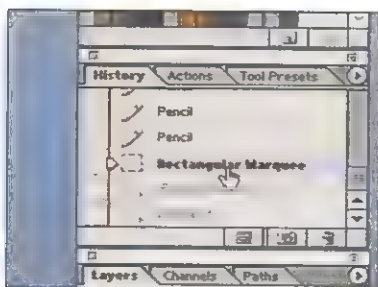
Let's take our project to a new creative level with some wide-scale patterning



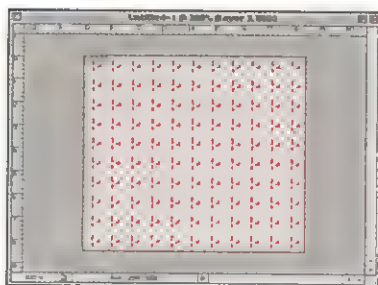
1 If we're going to add large-scale patterns let's give ourselves more room to work with. Go to **Image > Canvas Size** and increase the dimensions so that when you hit OK it adds space around the edges. Start a new file roughly the same size as the main canvas. Zoom in to pixel-level, create a new layer and, using the Pencil Tool with a bright colour, draw random squiggles and dots.



2 Using the Rectangular Marquee Tool make a selection covering most of your squiggles. Then go to **Filter > Pattern Maker**. This is almost as much fun as Liquify; if you hit **Generate** the filter randomly creates a pattern based on your selection. Hit it again and it creates a new one. Try changing **Width** and **Height**; this alters the dimensions of the tile used to create the pattern.



3 Once you've happy hit OK, and the pattern will cover the canvas. Using the Move Tool, drag the layer straight off this canvas and on to the case study where it will automatically paste into a new layer; call it 'pattern1'. Position it so it covers the whole canvas. Go back to your pattern-making file and take a few steps back in the History palette, to just before you made the pattern.



4 Create another pattern based on the same selection, but multiply the tile dimensions by 7. Drag this pattern into the main file. Finally, in a smaller file (100x100 pixels), create a more regular, grid-type pattern by clicking **Edit > Define Pattern**, then **Edit > Fill > Pattern**. Increase the file size, resampling pixels as **Nearest Neighbour**. Drag this pattern into the main file.



Why seven?

In creating the second pattern, why did we multiply the tile dimensions by seven? Well, if you use one pattern on its own, you can clearly see where the pattern repeats.

However, if we overlay another pattern where the joins between tiles occur in different places, it's harder to make out what's going on and, as seven is a prime number, the joins will hopefully never line up.



Reducing file size

By this stage we're dealing with a lot of layers, and the canvas has been made very large, so the file size shoots up. This will probably make opening, editing and saving your file a pretty slow task. It

might be time to accept that we can't create this image at the high resolution we originally wanted to – if this is the case with your version click on **Image > Image Size** and reduce the **Width** and **Height** dimensions. Try halving them to start with, and see what difference that makes.

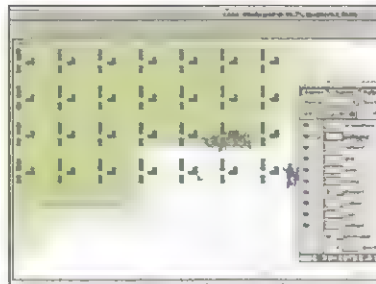
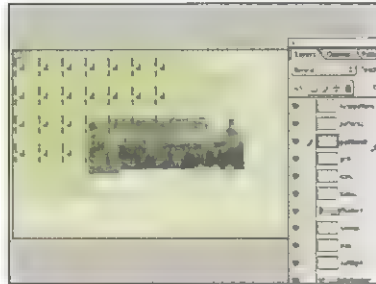
Using the patterns

So we've covered our canvas in squiggly patterns – what shall we do with them?



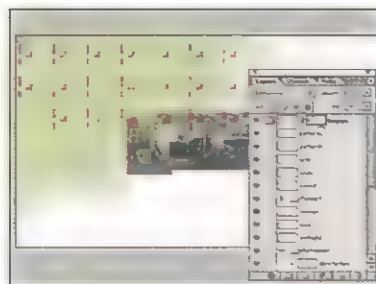
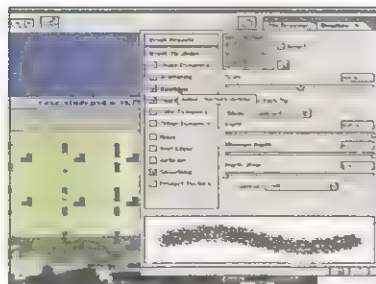
Straight or curved?

If you're put off by the regimented, clinical straight lines that the Polygonal Lasso draws try the Lasso Tool instead; using this you can create freeform shapes. It might take a few goes to draw truly smooth curves, but once you're there it will lend a more organic, fluid feeling to the piece.



45 degrees

As we head into an area that's slightly more 'designy' than arty, let's take a look at some of the artwork that inspired me. www.workforthem.com is the website of a respected design agency with a lot of print work under its belt, and if you look at the Print section of their portfolio you'll see that 45-degree angle cropping up occasionally; it's a favourite of many designers.



1 Make a selection using the Polygonal Lasso Tool (no Feather). Select a shape that you would like to remove from your first pattern layer – hold down [Shift] while doing so to create visually pleasing vertical, horizontal and 45-degree edges. Having defined a shape, make sure that you're in the pattern1 layer and hit [Delete].

2 After hitting [Delete] click on Select > Save Selection and give this selection a name. Now create another selection (and also save it) and delete most of your second pattern as shown here – this creates a kind of stepping effect down to the photo section. You might also like to change the blending modes of both these layers – you'll get some interesting results.

3 Now for the large pattern. Select the 'largepattern' layer and add a mask by clicking the button at the bottom of the Layers palette. Now create a brush shape. My brush included Texture and Dual Brush settings in the Brushes palette. Keep in mind that we'll use this to 'eat away' at the solid forms of the large pattern shapes.

4 With the Vector Mask thumbnail selected in the 'largepattern' layer, scrawl some quick strokes into the pattern – the idea is to just slightly disrupt the perfect repetition there. Once again, play around with the blending modes – using the Difference mode on my green pattern turns it a satisfying, rich red.

Scattered imagery

By creating a custom-drawn brush tip we can produce splattered imagery effects

One of the themes that I wanted to address in the creation of this artwork was the idea of repetition as typically seen in the Bullring architecture – the rows of wooden struts along the rooftop; the brickwork and the paving. However, repetition can also be identified where it takes on a more random behaviour. Consider the walkway area in front of the shops – we can guess that hundreds of people walk from one side to the other every day, but the exact route will of course vary, as will their stride pattern and

speed. As many of the graphics in the image so far have followed a kind of pattern or regularity, it would redress the balance a little to create a brush that by its nature paints randomly. If you're well acquainted with the Brushes palette (and by now you should be), you'll know that this means fiddling with some of the Jitter controls. Try to decide which elements or behaviours should be constrained and which can be let loose to randomly act of their own accord – you'll see what I came up with in the box below.



Rotation

We could have used any brush tip shape here, but the arrow, and the fact that we could make it point in the direction of the flow, best illustrated the idea of something flowing from the Bullring. Try a cross-shaped head with a random Angle Jitter set up in the Shape Dynamics section, or even something more specific like a footprint that might suggest a 'trodden path'.

ARROW BRUSH

Here's a brush created with a very specific purpose in mind

You'll find this brush on the CD – [casestudy.abr](#). I started off by drawing an arrow in an empty layer using the Custom Shape Tool. In the options bar I set it to draw Fill Pixels and selected the arrow shape (I actually drew the shape facing the wrong way, but later rectified this by changing the angle in the Brush Tip Shape tab of the Brushes palette). Then, in the Brushes palette, I created a few behaviours. I set the Shape Dynamics Size setting to Fade over 30 steps, and Scatter worked in a similar fashion. I set the Angle Jitter Control to Direction, so all the arrows would face outwards. Then I drew various strokes leading to my central point.



The arrows flowing out here contrast and physically push against the green patterns and red blocks on the left

Reshaping the photograph

Let's take another look at our original panoramic photo, and make some changes



Check progress

The image is now made up of many layers – toggle each one on or off to see what they do/don't add to the image. This is the beauty of Photoshop – we can build up our work as much as we like, safe in the knowledge that nothing is irreversible.

There are a couple of things I'd like to alter in the panoramic photo we started with. It now seems that the standard letterbox shape conflicts with the free-flowing shapes, angles and patterns making up the rest of the image. The top and left edges at least could do with some changes, as they're most in contact with the pattern and arrows, so that's where the problem is most obvious. To start with, completely removing the sky will open up the roofline and create the impression of the arrows pouring out of a kind of



The central photomontage is now in need of reshaping to accommodate the newer graphic elements – the changes are shown here

organic shape. The left edge can be reshaped using the selections we saved in creating the patterns.



Why mask?

There are several reasons we chose to mask this layer when simply erasing would have done the job. To start with, it's safer; if we want to change or undo these shape changes later we haven't actually removed anything from the picture, and the mask can be edited as necessary. Secondly, because it's a grouped set, the photomontage can't actually be erased; however, if you save this file with just one layer in a set and then reopen it, notice that the set folder is 'cleaned out', leaving just one layer.

RESHAPING THE PHOTOGRAPH

TURN OFF ALL LAYERS except the Photojoiner set. Then you can tick Use All Layers in the Paint Bucket Tool's options bar, knowing that the tool will only select from the relevant ones.

ADD A LAYER MASK to the Photojoiner set. Then select a 100% black foreground colour with which to mask out the sky.

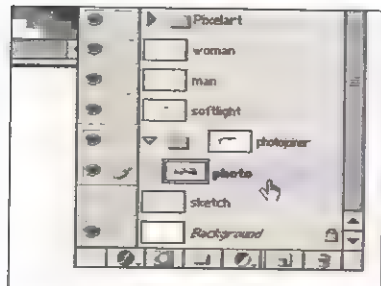
USE THE PAINT BUCKET TOOL to paint over the sky, with Tolerance set to 30 and all tickboxes ticked. You'll need to click in the sky several times.

CLEAN UP AREAS you couldn't mask over using a normal round brush. For fine pixel work, use a black pencil.

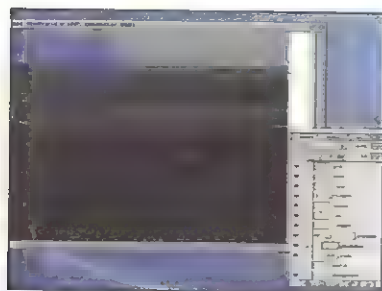
SELECT AN AREA on the left using the Polygonal Lasso, then Edit > Fill it with black. This area should overlap the left edge so it masks in an edge shape, reflecting the green patterns.

Painting with brushes

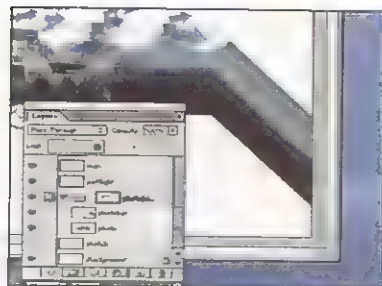
It may seem like a revolutionary move, but it's time for some good old-fashioned brushwork



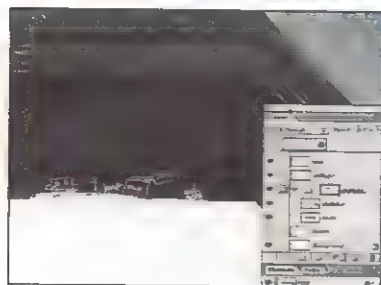
1 I wanted to create an interesting area to paint on, not just the white canvas. This canvas is based on the photo and as I'm now sure about the photojoiner set, we can merge it. First merge ElbowTexture down to elbow ([Ctrl]+E (PC) or [Command]+E (Mac)), then blurcolour down to elbowblur. Select Elbow again and keep merging layers until all the photo elements are in one layer.



2 In the photo layer select the Rectangular Marquee Tool. Set Style to Fixed Size, Width 1 pixel and Height 2,500 pixels. Click on the right edge of the photo and a narrow selection marquee appears. Position the marquee so it covers the edge column of pixels. Copy and paste so this column goes into a new layer. Edit > Transform > Scale and drag the column into a wider bar.



3 Now duplicate this new layer and Edit > Transform > Skew it so it slopes down and off the canvas. Merge these two latest layers together. Having produced this very 'techno' artwork, I wanted to paint a 'dirty' brush over it. In the Preset Manager or Brushes palette menu load the Dry Media Brushes set. Select a thin but rough brush – I used Wax Pencil.



4 In the set's layer mask draw shades of grey (100% black masks most remember) over the bottom part of the bar where it's darkest. Draw anything you like; I went for quite childlike imagery to contrast with the sharpness of the bar. If you'd rather leave this bar shape 'clean' then fair enough, but I felt my image needed a more natural 'hand-drawn' artwork element.



Dynamic graphics

The method used for making bars is basically a trick, but there's nothing wrong with that. We sample a realistic selection of colours from the photo and drag this out into something for more abstract. The result is impressive, fast and effective; more to the point, it's one of those images that you can only really create with a computer.



Don't mind the gaps

When lining up these bars, make sure there that they're flush up to each other and the straight photo edge. You'll find it easiest to zoom in, select the Move Tool and then use the arrow keys to position them (hold [Shift] at the same time to move in larger steps). However, on viewing the image at other zoom levels it might look as if there's a gap there – Ignore this; it's just Photoshop doing it's best to 'redraw' what's there.

Importing external graphics

We can't do 3D modelling in Photoshop, but we can create images of 3D models



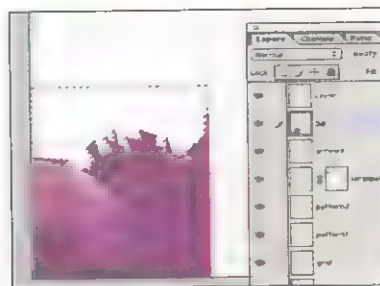
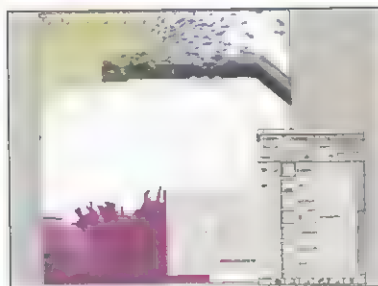
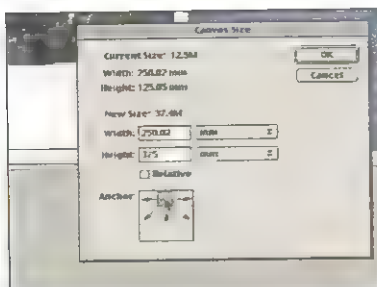
Creating 3D images

Making up abstract 3D images as shown here can be very easy. Even simple applications can be used to quickly draw an object such as a cube or sphere, and you can pull the nodes around to remodel and reshape it. It only starts to become hard work if you're trying to create something that resembles an everyday object, such as a car.



Using selections inventively

Here we show a simple way of using a selection from one layer to affect the content of another. This can produce some quick, interesting results. Try layering two different photos, making a Magic Wand selection from one and then deleting this from the other.



You won't be surprised to find I've changed my mind about the canvas, and now want it to be portrait-shaped! First go to **Image > Image Size** and halve both Height and Width, as it's still quite big. Then do **Image > Canvas Size** and roughly double the height – make sure that the original image is placed flush to the top by clicking the Anchor button.



2 In Photoshop, open the file 3d.pct from your CD. This was created using a simple 3D modelling application called Strata StudioPro Blitz, and then saved as a PICT file – notice that this doesn't bother Photoshop in the slightest. Select the top layer of the main file, then drag the image from 3d.pctc and drop it into the main file.



3 Use the Eyedropper Tool to sample the purple from the woman we traced. Then in the 3D layer go to **Image > Adjustments > Hue/Saturation** and tick **Colorize**. This block of colour is a bit intimidating, so let's remove part of it while also starting a graphic for the next section. Using the Pencil in a new layer, hold [Shift] and draw a line from the top edge to the bottom edge of the image.



4 On the same layer in which you drew the line, use the Magic Wand to select the unwanted right side of the image. Select the 3D layer and hit [Delete] to erase it. While in this layer, try selecting the seemingly empty area just above the graphic; the 3D file also imported the white background, so it's best to delete this too. Merge the layer with the single line down to your 3D graphic.

Linking graphic elements

On the previous page we drew a single line; now let's use it, and others, to link elements

Our image is now made up of several different graphical elements, so using a few well-placed lines will help to pull all of these together. We already have the vertical line drawn in from the last page, so that's a start – but what can a single line really do on its own? Well, even at this stage it's doing something; if we look at the image we can see that this line naturally draws the eye down to the 3D element – it's a physical connection. Also, because the line is very narrow, despite this connection, it's

represented as being very fragile.

On the next page we'll add a dropped shadow under the 3D layer, and a gradient radiating from the bottom half of the image. This will give the impression that this isn't just a line, but an edge where the 3D section is contained in some kind of well, box or precipice. Other lines will be used to reinforce the existence and importance of objects such as the icons and the photo itself. This is just one way that you can bring elements together, creating a feeling of unity in the image.



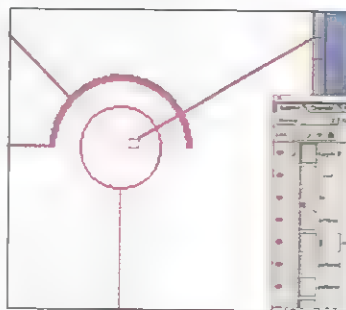
Creative space

Don't feel you need to follow any rules when adding these kinds of linking graphics. In fact, if you don't use them at all you might be happy with the space that's left. Large areas of flat colour are typically used by artists and designers to accentuate fine details, patterns and the like in artwork.

MAKING CONNECTIONS

Add more lines to suggest links between image elements

Start off by using the eraser to rub away a top part of the line so that it stretches about three-quarters of the way up the image. Then, at the top of the line and in a new layer, add a 2-pixel wide ring, in the same way that we made the circles for the icons before. Then, above this add a larger, more solid ring, but rub the top half away so it looks as though it 'docks' on the circle. From here, draw lines which branch off the ring – just draw a horizontal line then use Edit > Transform > Rotate as necessary. Finally place one end of each line at the centre of the inner circle, then erase up to the outer semi-ring.



All our lines emanate from a single shape, suggesting a kind of 'meeting' between the different elements

Recolouring the canvas

We've been staring at a white canvas for far too long – let's change that right now



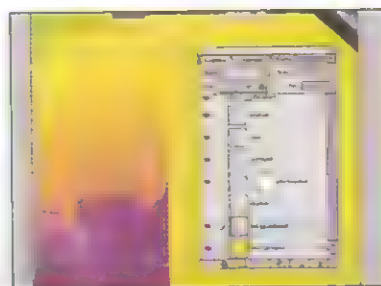
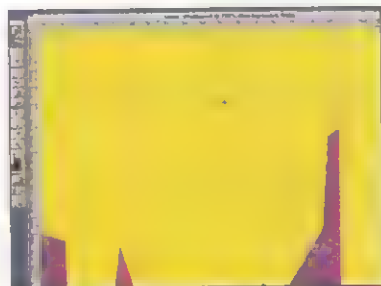
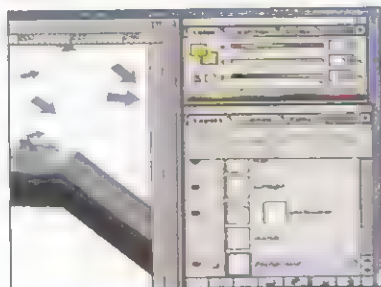
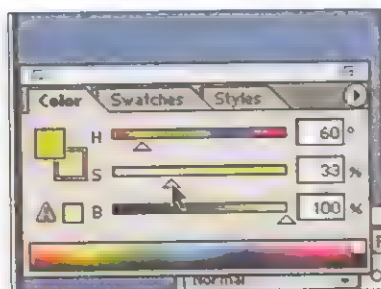
The final frontier

The idea of the exercise is to create a sense of space and depth. The first angled gradient adds an almost Escher-like 'impossible' spiral of lighting, as if the surface is a paper cone. It also suggests the emptiness of the direction the arrows are following. Then the second gradient drops us into a void, or at least a space that slopes away from the top of the image into this recess.



Light, shadows and colours

How did I decide on the colour for the shadow effect under the 3D image? Well, I chose the colour of the rest of the 'surface' there, the yellow. Then the idea was to try and show that the purple object was reflecting light on to the bottom of the recess it was contained in. So, using the RGB Slider of the Color palette I added in a little more red and a lot more blue to create yellow with a hint of purple.



Select the Background layer at the bottom of the stack. Choose a colour you think will balance well with everything else; it shouldn't be too saturated or it will clash and look garish. Now, rather than just filling the layer with this, add a little depth using a Gradient. Choose another colour as your background colour, one that's very similar to your foreground colour.

The gradient we'll use is the Angle Gradient, the middle icon of the five in the options bar. If you've ever tried out this gradient you'll know it creates a hard line, but we can hide this under the photo. Click the start point where the 'bar' graphic starts, drag it down in the direction of the sloping bar and then release off the canvas (hold down [Shift] for that 45-degree angle).

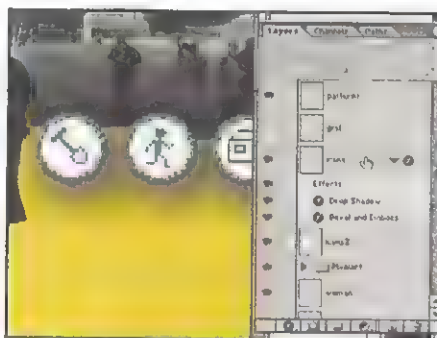
Now to add a gradient to create a 'box' illusion for the 3D section. Zoom right in to where we drew that first line coming from the 3D graphic. Click on View > Rulers and also make sure View > Snap To > Guides is ticked. Drag a vertical ruler from the edge of the canvas, and drop it so that it lies just along the vertical drawn line. Now zoom out to see the image in full.

Using the Rectangular Marquee Tool draw a box covering the 3D graphic; it will snap to the guide when you get near it. Create a new layer just above the Background layer and choose a colour. Select the Gradient Tool, choose Foreground to Transparent in the Gradient picker and a Radial Gradient shape. Draw a gradient starting at the centre of the 3D image and ending two-thirds up it.

Final changes

We've now added all the elements of our image, but the file as a whole needs tweaking

We're now treading on thin ground creatively speaking; the balance we want is there, and adding any more contrasting elements will overcrowd the image. You could argue that the bottom-right quarter of the image looks a bit sparse, but as I mentioned earlier many people like to use flat, empty areas in their work – and I happen to be one of them! Most of the adjustments I make now are to pull the photo back out of the busyness in the centre and also add a general sense of depth. When you get to this stage in your



Adding a final round of special effects to your layers can help create a much-needed sense of space and depth

own work, step away – for maybe a day at a time – so that you can come back to it with a fresh outlook.



Going back

You don't have to be right all of the time – no one is! So if you've added something at any stage of the process and want to be rid of it, that's fine. The grid that I added and warped round the building near the start is really bothering me – it doesn't seem to be doing anything good for the image, so I turn off that layer by clicking its 'eye' symbol. Ah, that's better!

FINE-TUNING THE IMAGE

THE SMALL ICONS didn't stand out enough, so I selected the Icons layer and clicked the Add a layer style button at the foot of the Layers palette; I chose Bevel and Emboss and, in the Layer Style window, Drop Shadow.

THE MAN in the foreground had no legs, and looked like he could do with some. In the Photo layer I used the Magnetic Lasso to select around his legs, then copied, pasted and resized them using Edit > Transform.

THE SECOND 'ICONS' image was too jarring in the mix. I changed the blending mode to Overlay and reduced the Opacity slightly. It still screens the pixels underneath with a 'blasted' white and blue light effect, but it's not so harsh and distracting.

THE PHOTO LAYER is still a little dark in places. To fix this I duplicated the layer, changed the new layer to Screen mode, lowered the Opacity a little and rubbed away parts I didn't think needed lightening.



Second opinions

Before your artwork goes out to the masses, why not try showing it to close friends or family? Of course, their opinion will be biased, and they might not want to hurt your feelings, but you can probably get a few quick, honest comments. If you're concerned about a particular layer, save two jpegs, one with the layer on and one with it switched off, so your test audience can compare them.

Slicing and saving the image

Now let's put this project to bed – but not before we've saved it for our web audience



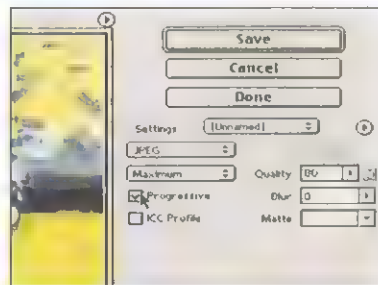
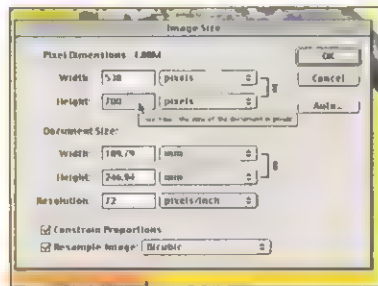
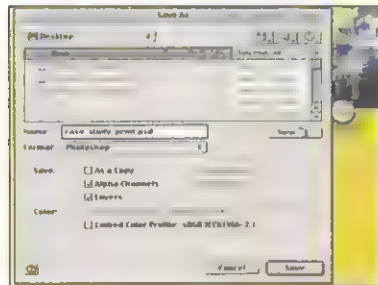
Screen resolution

When saving a file for the web consider the screen resolution that will typically be used by your audience. It's no use making a file that's 3,000 pixels wide if the viewer's browser is only 700 wide – they'll have to scroll all over the place to see it. 800x600 pixels is the resolution most widely used, followed by 1,024x768, 1,280x1024 and so on. Also remember that this is the screen size – the browser size is even smaller.



Layer Comps

In Photoshop CS, the Layer Comps feature enables you to save different versions of the same image in a PSD file. So if you're undecided as to whether an image looks better with a blue background or a white one, you can save it both ways and then flick between the two using the Layer Comps palette. For commercial work you can even send the PSD on to your client, and ask them to choose!



With the main file open, make sure all the layers that need to be are switched on. Click on Image > Image Size and you'll see that the file is still huge. If the image is to be displayed on the web it will need reducing once again to fit in the average browser. Before doing this it's a good idea to do File > Save As with a new name, so you have a larger, printable version too.

After doing this you'll probably have to reopen your original file, and then go to Image > Image Size. First untick the Resample Image box and change 300dpi to 72. Tick Resample Image again, and change Pixel Dimensions > Height to 700. Hit OK. The image should now fit in most browsers if we assume that the majority of surfers use a high-resolution screen.

Don't try zooming in now – it'll depress you because the pixel art, carefully tweaked photo and other elements have been mashed up in the resizing. To make the file more web-friendly, do File > Save for Web, pick JPEG as the file type and select Maximum. Also click Progressive, then hit OK. Open the optimised JPEG and hit the Jump to ImageReady button in the toolbar.

In ImageReady, click Slices > Promote to User Slice, then Slices > Divide Slice. Choose to divide horizontally into three slices and vertically into two. Select the Slice Tool and drag the slice dividers around so that they lie along lines and sections of the image. Select File > Save Optimised As and check that Format reads HTML and Images. Give the HTML file a name and hit OK.

FTP and uploading

The moment of truth! It's time to share your art with the world by uploading it to the web

There are two things you'll need to do if you want to put your work on the internet. First, you need some web space. Many companies offer this free – the only problem is that they may add advertising banners to your site, which can be a little off-putting. If you pay for your web connection with a provider such as Freeserve or AOL you may already have free web space. If not, try www.freeserve.com, www.aol.com, www.yahoo.com or www.sitebuilder.com, or search for 'free web space' on Google. While doing

this, get hold of your personal FTP settings for uploading files to the web. You'll need the host address, your username and your password.

Now you need to download an FTP application such as Fetch, CuteFTP (PC) or Transmit (Mac) to transfer your files to the web. Search Google for 'free FTP applications' or similar – I found www.fdepot.com/freelftp.asp, which gives a pretty comprehensive list. Some offer software on a free 30-day trial basis, but you can hunt around for some without any restrictions.



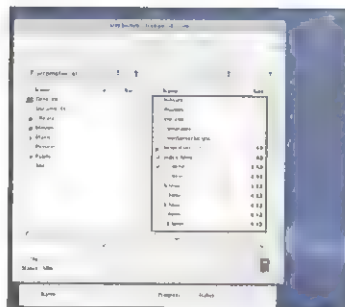
Finished piece!

Yes, you can see my completed image online! Go to <http://mysite.freeserve.com/jerometurner/webimage/casestudy.html>. What do you think? In fact if you really want to tell me, feel free – email me at info@jerometurner.co.uk. You can see other examples of my work at <http://mysite.freeserve.com/jerometurner/about.html>; many of them use the techniques we've looked at in this Focus Guide.

PUTTING FILES ONLINE

Stick it online, sit back and wait for the praise to flood in!

Connect to the internet and open your FTP application. Enter your FTP details from your web space provider and connect to your web space. Your space is organised like any other desktop folder, probably starting with a 'pub/' folder. Put your HTML file and the folder containing your image slices into another folder. Then drag this into the FTP upload window, or browse to select it; this will upload the entire contents. Then open your web browser and type in the web address of your web space, followed by your folder name and the HTML page name. For example, <http://www.freewebspace.jezturner.co.uk/>.



Transmit is easy to use and free to people running Mac OSX – you can find it at www.apple.com/osx

www.apple.com/osx

On your CD-ROM

Here's how to get the most out of the disc that accompanies your Focus Guide

Featured software

- 100 attractive computer-based stock images from morgueFile
- Exclusive Photoshop Brushes, video tutorials
- 100 Brushes from a variety of sources
- Over 200 shapes and 20 borders
- More than 200 custom Photoshop patterns

To access the wealth of resources and software-on your disc, first insert the disc into your CD drive in the usual way. Whether you're using a Mac or a Windows PC, the disc will work equally well. If the disc interface doesn't run automatically, look at the facing page to find out how to start your installation manually.

Before you go on

The first item that should appear on your screen is the disclaimer window; here you'll need to click

on 'I Accept'. Please remember that this disc has been scanned and tested at all stages of production, but – as with all new software – we still recommend that you run a virus checker before using any new piece of software. We also recommend you have an up-to-date backup of your hard disk before using this disc. Future Publishing does not accept responsibility for any disruption, damage and/or loss to your data or computer system that may occur while using this disc, or the data and programs on it. Please consult your

VIDEO TRAINING TUTORIALS

The use of brushes explained by Photoshop guru George Cairns

To complement the printed tutorials, we've also included a range of video tutorials on the disc to help you master the Brush tool. This month our regular Photoshop expert George Cairns explains various techniques for applying painterly effects to your images. The tutorials are broken down into three manageable chunks, so users of all abilities can work at their own pace:

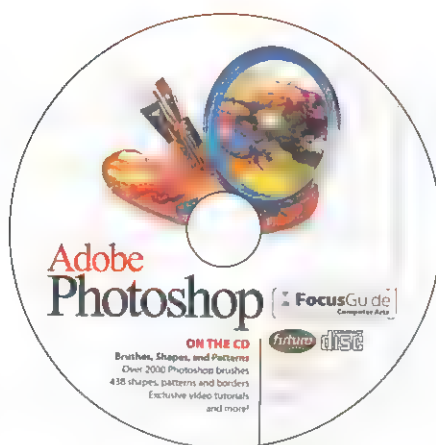
BrushesPart1: Introduction to brushes

BrushesPart2: Creating a pattern from a brush/ creating custom brush shapes

BrushesPart3: Creating a 'painted' image using brushes



Photoshop guru George Cairns takes you through artistic brush techniques in our exclusive video tutorials



network administrator before attempting to install any software on a networked computer.

Installation

Once your CD interface has loaded, you can access any of the files, software and other resources included directly from your CD. Simply click on the animated 'Click' link and choose the section that you're interested in from the menu. The video tutorials require the latest QuickTime Player, from www.apple.com/quicktime/

download. If you have a query about your disc, email our support team at support@futurenet.co.uk for help. If you want to talk to a member of the team, call 01225 822743. Note that we can only provide basic advice on using the disc interface and installing the supplied software. We cannot give in-depth help on specific programs, or on your particular system configuration.



Starting your installation manually

PC users: click on the Windows Start button and click Run. Then click Browse and go to the CD directory in My Computer. Look for a file called PFGi.exe and double-click it. Then click OK in the Run dialog, and the CD should then load up.
Mac users: Double-click the disc icon, then double-click StartMAC or StartOSX, depending on which OS you're using

BRUSHES, SHAPES AND PATTERNS TOOLKIT

A huge resource of custom tools for Photoshop users

A grand total of 2310 brushes, 203 patterns, 215 shapes and 20 borders, supplied by the following:

Cybia	A varied resource of all things Photoshop, Cybia has supplied 1100 Photoshop brushes, broken down into four collections. www.cybia.co.uk
Timo2000	Great selection of 138 brushes, 191 shapes. More resources: www.timo2000.de
Tioem	227 brushes, http://tioem.com has more brushes, tutorials, a gallery and more.
Glitter Tramp	Bundle of 324 brushes; see http://glitter-tramp.com for loads more cool content
Sage	304 brushes split into 10 collections, plus a bundle of 20 borders all ready for you to use. Visit www.photoshop.brushes.btinternet.co.uk for more information
OgeeFire	170 patterns plus 67 brushes; find much more online at www.ogeeffire.com
miss m.	150 brushes split into 12 collections from www.rebel-heart.net/brushes/
WebMachine	33 patterns, 24 custom shapes. Tutorials and more: www.thewebmachine.com

morgueFile stock photographs

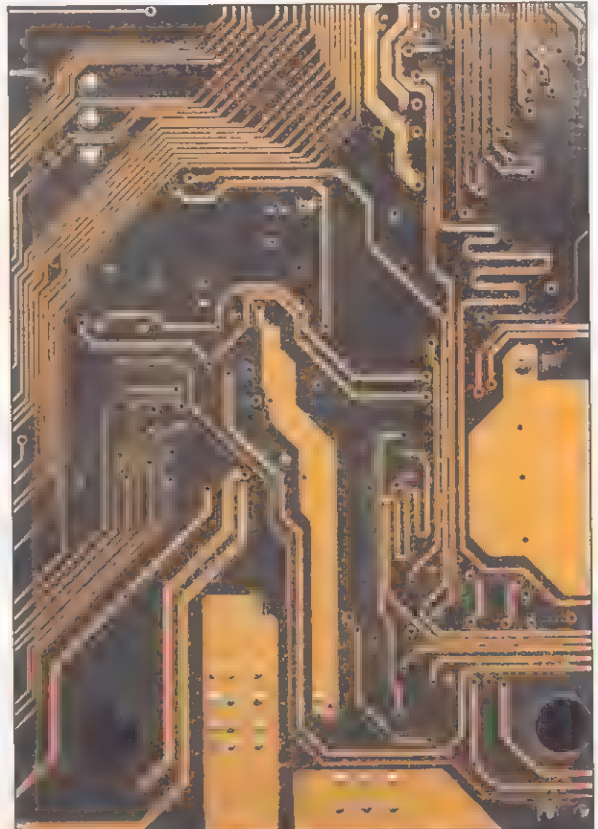
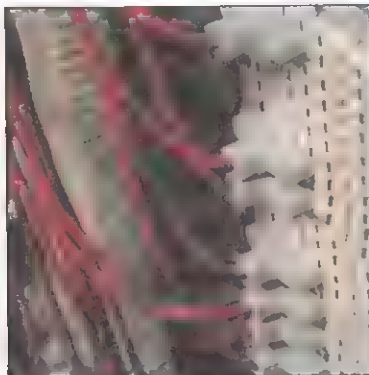
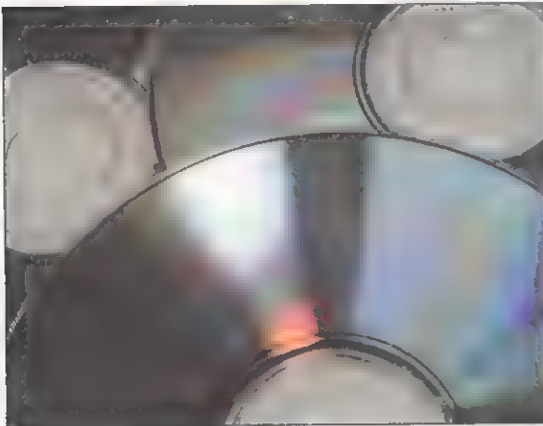
100 high-quality photographic computer images to use in your Photoshop projects



Online options

A great many images are available online at the morgueFile website. Point your browser at www.morguefile.com for many more great examples.

A 'morgue' file is nothing to do with cadaver storage, it's defined as a place to keep post-production materials for use or reference, or an inactive job file. morgueFile is an online resource which contains free high resolution digital stock photography for either corporate or public use. This issue we bring you a collection of 100 computer-related images for use in your projects.



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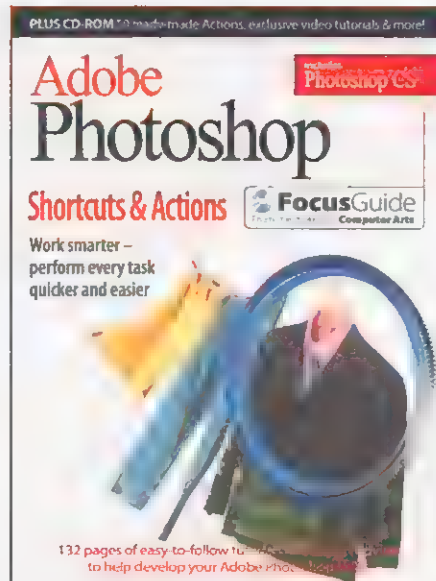


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All contents subject to change



ISSUE 25 ON SALE THURSDAY 30 JUNE 2005

Glossary

We always try to minimise the jargon, but it helps to add a few words of Photoshop-speak to your vocabulary...

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Blending modes

Blending modes are used to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blending modes to individual layers, you can create a wide variety of effects.

Brushes

Brushes enable you to paint on Photoshop images with colour, other bits of images and predefined patterns. They mimic real brushes in that you can alter their size, hardness and texture in order to achieve the effect that you want.

Calibration

The process of adjusting a device to bring its behaviour into line with a known specification, helping to reproduce colours accurately. For example, colour monitors are calibrated to a specific colour temperature, gamma, and black-and-white luminance.

Colour channels

There are three or more colour channels in all full-colour images, depending on which colour mode you're using. For example, RGB mode contains red, green and blue channels, while CMYK mode contains cyan, magenta, yellow and black channels. Photoshop enables you to alter each channel independently.

Filters

A filter is a preset tool within Photoshop, which applies an effect to an image (or a selection within the image). Some filters apply their effect in one click, while others offer more complex settings. Filter categories include Sharpen, Blur, Artistic and Stylize. Each of these offer further options via fly-out menus. For a complete list, click in the Filter menu.

Gamut

The range of colour that a device (such as a printer) can produce, or the range of colour that a colour model can represent. If a colour is said to be 'out of gamut', it will not be reproduced accurately by the printing process or other intended destination.

.GIF (or .gif)

A type of image file format best suited to producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Using Photoshop, you can transform a colour image into black-and-white, with many gradations of grey, in a single channel. This is known as a greyscale image.

.JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file size and good-quality photo reproduction. It's commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layers

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, just as a blurry piece of glass placed over a photograph does not actually affect the photograph; in both cases, it's the appearance that has been changed, with the original image left unaltered.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Rasterize

When you 'rasterize' a graphical element, you convert it from a vector to a pixel-based image. It will no longer be scalable like a vector, but can still be edited, like other images in Photoshop.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images. 72dpi is sufficient for images intended for the web.

Selection

Any part of an image which you select with Photoshop's tools, usually indicated by a marquee around it. Making selections enables you to work on parts of an image, or remove them, without affecting the rest of the image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find them in

folders of images and in Photoshop's File Browser. Because they're smaller than a full-size image they're fast to load, and you can browse through them more quickly, which makes finding the file you're after much easier.

Pixel

An abbreviation for 'picture element', it's essentially a tiny dot of colour on screen. Most images are made up of millions of pixels, which combine to make an image look seamless. Zoom-in very close to an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you've made to remain editable when you next open it.

Spot colour

A method of specifying and printing colours in which each colour is printed with its own separate ink. In contrast, process colour printing uses four inks (cyan, magenta, yellow and black) to produce all other colours.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears along the top of the Photoshop window, giving you access to various options relating specifically to that tool. These often include effects such as Anti-aliasing and Feathering.



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Adobe Photoshop



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